

ATHLETIC JOURNAL

Vol. XVII, No. 2

October, 1935



Play of the Blocking Back

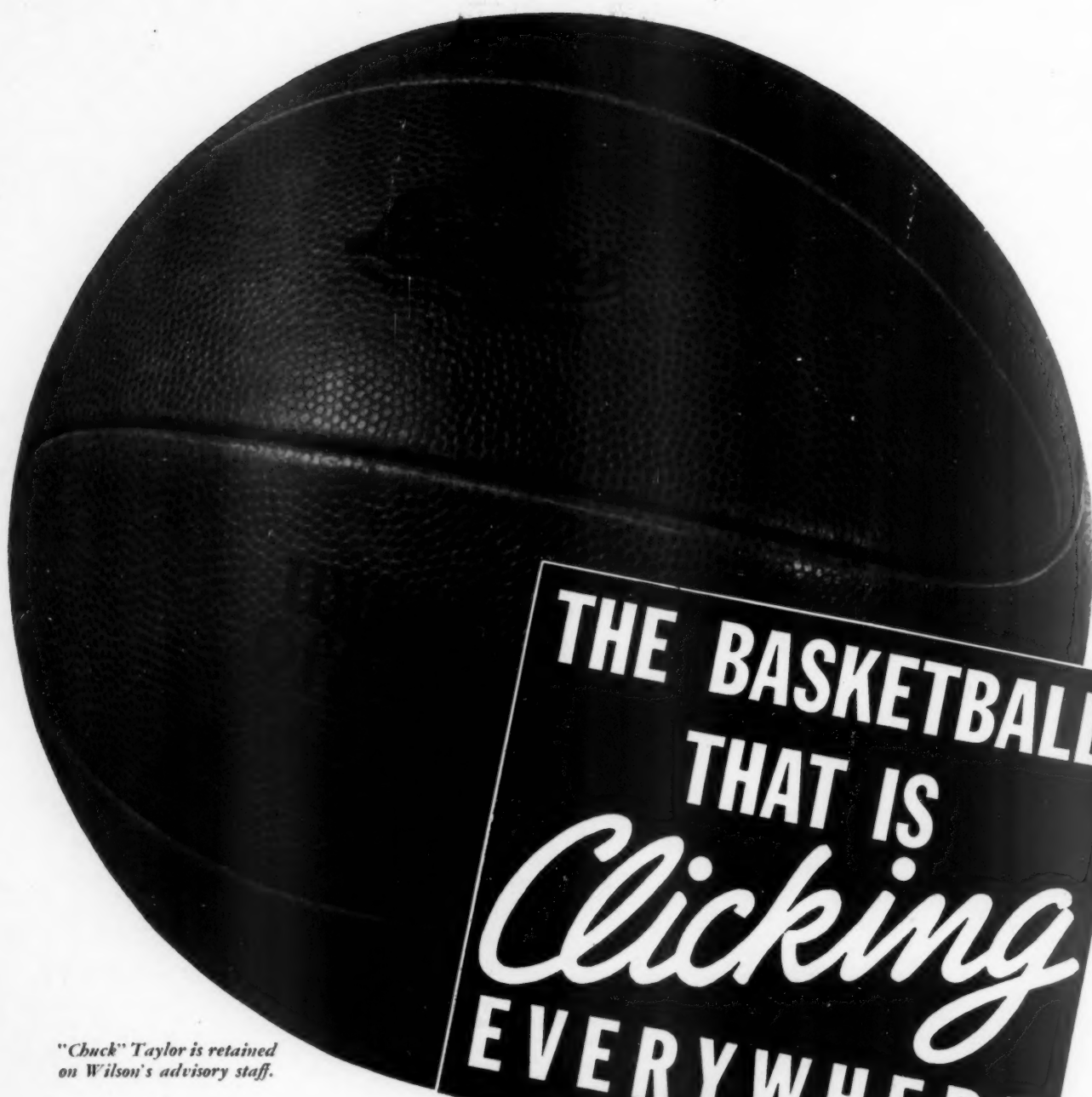
L. C. Boles

Inside the 10-Yard Line

Stewart A. Ferguson

One Type of Figure 8 Offense

Clifford Wells



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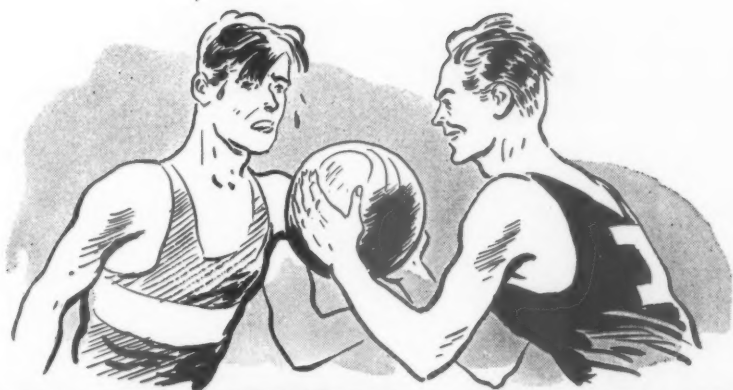
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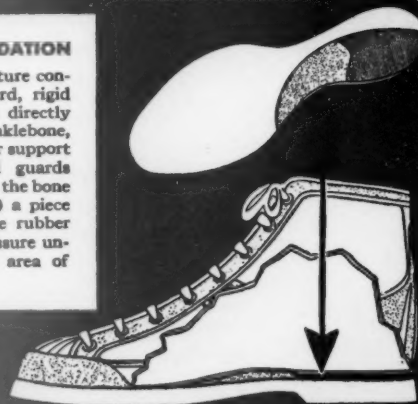


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PUBLISHED MONTHLY except July and August by the Athletic Journal Publishing Company, 6858 Glenwood Avenue, Chicago, Illinois, Member Audit Bureau of Circulations. Request for change of address must reach us thirty days before the date of issue with which it is to take effect. Duplicate copies cannot be sent to replace those undelivered through failure to send advance notice.



SUBSCRIPTION PRICES: \$1.50 per year; \$2.00 for two years; \$2.50 for three years; Canada, \$2.00 per year; foreign, \$2.00 per year. Single copies, 25 cents. Copyright, 1936, The Athletic Journal Publishing Company. Entered as second-class matter, August 14, 1925, at the post office at Chicago, Illinois, under the Act of March 3, 1879.



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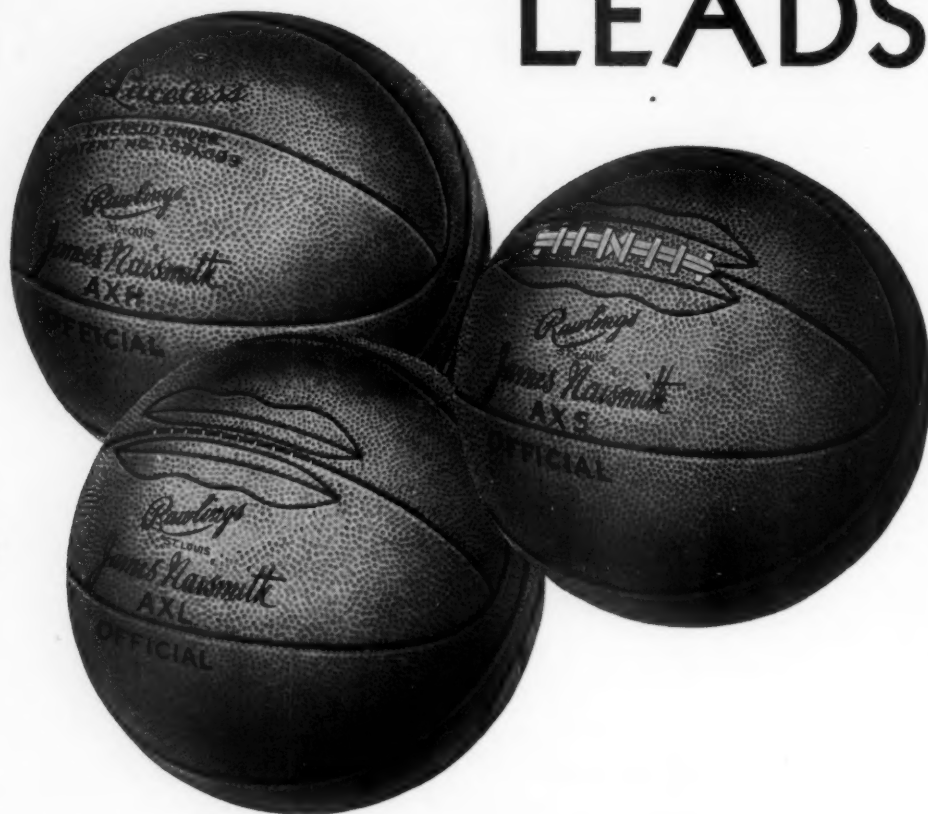
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MISSOURI

Les Lindberg, former University of Illinois back, throwing a pass in a scrimmage between two squads of former college players. Wally Cruice, formerly of Northwestern University, is the player with 47 on his jersey. Also formerly of Northwestern is Paul Tangora, whose number is 30. The apparently distorted altitude of the ball is the result of the angle at which the photograph was taken.



Bell & Howell

Play of the Blocking Back

By L. C. Boles
College of Wooster

ONE of the most important offensive positions today on a first class football team is that of the blocking back. It might be said that the blocking technique of this man, and of the lineman who pulls out to work on the ends on all running plays outside tackle, is the most important feature of these plays.

The blocking back should be a rugged, fearless, good-sized boy, fairly tall and with a long upper body; fast, intelligent and unselfish to the last degree. It is wise, if employing the huddle system in calling signals, to use him as signal caller, as he soon learns more about the nature of defense than any other man on the team. His ruggedness is necessary, as he makes more sharp bodily contacts than any other man on the team. His length of upper body is important in offering blocking surface. He must have speed if he is to reach his target in time to make the play effective. His intelligence is even more important, especially if he is the signal caller. If he is not the signal caller, he must still know how to help mislead his defensive target in order to set up his angle of approach. He must be thoroughly unselfish, as he must do much of the work on offense without the public acclaim from newspapers and spectators. Fearlessness is necessary for all players of this great game, but the blocker should be more than usually blessed with this exceedingly important trait.

Having a player with the above qualifications, the coach should be able to develop an effective blocking back. He should insist on the blocker's running low and holding his feet as long as possible. The offense should be built to give the back the best blocking angle. This may be done best by changing assignments on similar plays so that occasionally another blocker helps the blocking back, or so that at times the blocking back fakes and moves on, leaving another man to carry out the block.

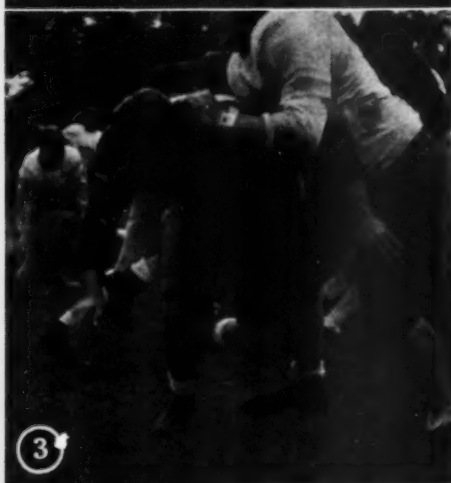
The ball-carrier may do much to assist the blocker. As he approaches the defensive man, his fakes that conceal his intentions are very important to the blocking back. The method by which he carries the ball, his eyes, the fakes

with his hips and the direction from which he approaches the defensive man will often decide the issue between his team mate and his opponent, if the two men are nearly equal in their ability.

For teaching, we might divide the blocker's assignment into two parts: the approach and the block. His approach is very important as he must also help to maneuver the defensive man into the right position to carry out his block that will protect the ball-carrier. The angle at which he approaches the defensive man on his last two steps before contact is very important.

To block on plays inside the defensive man, we use the low, wide-stance, moving-shoulder block, with the blocker making an extreme effort to keep his contact and stay on his feet. The shoulder and side of the neck should be used on the block, which will keep the head between the defensive man and the point of the play. The blocker should also use the forearm with the hand close to the body to increase the blocking surface. Contact should be made by ducking the defensive man's arms near his waistline with the head-up and hips-down principle. An effective blocker can often protect the ball-carrier and later become trailer for laterals after using this block. The blocker makes the supreme effort, however, to hold his feet and keep contact until the ball-carrier crosses the line of scrimmage.

HIS twenty years at the College of Wooster entitle L. C. Boles to be regarded as the dean of football coaches of the Ohio Conference. Under him, Wooster gridiron teams have won 118 victories while suffering 36 defeats and 16 ties. Before becoming head coach at Wooster, Mr. Boles coached one year at London, Ohio, High School, six years at Fostoria High School and two years at East High School, Cleveland. He is a graduate of Ohio Wesleyan University. In this article, he defines what he considers the qualifications and the duties of a much neglected member of the football squad—the blocking back.



For outside plays, we prefer the long body block, with the same effort on the part of the blocker to hold his feet as long as possible. The same fundamentals of the approach apply here as were mentioned above in the shoulder block. Contact is made with the hip and arm pit, an effort being made to get under the defensive man's arms, or to break them back into his body. After contact with his body, with the defensive man trying to push the blocker to the ground, only a great blocker who can keep his feet continually while trying to work the opponent back and in. If the blocker is pushed off his feet, he should still try to make contact with the lower part of his opponent's legs by moving on his hands and feet or on his hands and knees.

The pictures illustrating this article are of one of the 1936 College All-Stars blocking for an outside play. Although he has eventually been pushed to the ground, he has kept his defensive man in position long enough for interference to form around him. The pictures show, too, that care must be taken that the blocker does not let his inside arm get away from him so that he will be called for holding. Pictures 3 and 4 show that the blocker has had enough power to break the defensive man's arms into his body and get some contact with his legs. The ideal, of course, is for the blocker to get close to the opponent's body and carry him by keeping his feet until interference and the ball-carrier have flanked him. It must be admitted, however, that most of our defensive opponents are so inconsiderate that this cannot be accomplished.

The illustrations on this page are of Wayne Millner (dark jersey), former Notre Dame end, using a rolling block on Louis Zarzas (white jersey), former Michigan State College player, in a scrimmage between two teams of former college players at Evanston, Illinois, in late August, 1936.

Illustration 1—In this picture, Millner has his eyes on the man he is about to block. This is an important point.

Illustration 2—Good leg drive by the blocker is pictured in this illustration. Millner seems temporarily to have taken his eyes off the target, which is a mistake.

Illustration 3—The stance taken by Zarzas is too high, which has allowed the blocker to get to his legs. Zarzas is not making the most effective use of his hands.

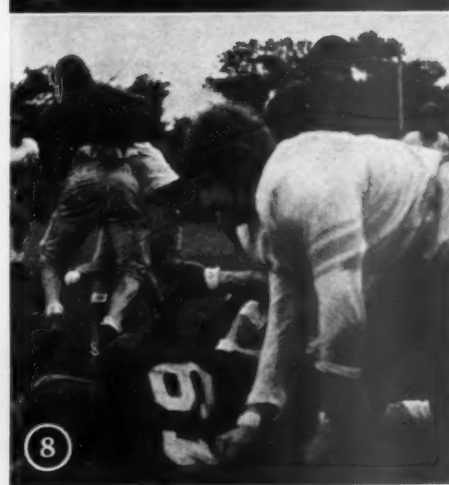
Illustration 4—In this picture, Millner has made contact, and Zarzas is already practically out of the play. Millner still shows good leg drive.

Illustration 5—Having made contact, Millner is coming down on both feet and both hands.

Illustration 6—The blocker is now down on hands and feet.

Illustration 7—The motion of the blocker is still toward the defensive man.

Illustration 8—The blocker is continuing his motion toward the defensive man in an effort to maintain contact. Although the block illustrated here is not perfect, it has accomplished its purpose of taking the defensive man out of the play.



Inside the 10-Yard Line

By Stewart A. Ferguson
Arkansas Agricultural and Mechanical College

FAILURE to score from inside the opponent's 10-yard line has cost probably more games for the average coach than any other one phase of the football attack. Time after time one sees a brilliant offense, characterized by fine strategy, good selection of plays and bewildering maneuvers, sweep down the field only to flounder in attempts to cross the goal line.

Goal line attack in many instances is still medieval, and, instead of sagacious planning in this most important detail, one often sees a team mire down in a bog of traditional plays.

Few coaches, as indicated by games, seem to recognize the fact that a different defense awaits them near the goal line. Because "33" or "27" gained such beautiful and consistent yardage up the field, they wonder why these same plays fail so disappointingly on the goal line.

Yet, every coach who reasons must admit that the defense varies in its vulnerability with the positions of the teams on the field. We all know that a sweeping end run started from near the offensive team's goal line is almost insane, as we also know that a long forward pass down the field from the same position sometimes works with great effectiveness. Memories of four line smashes near the goal with the ball advancing little if any amid the yells of "Hold that line!" from the opponents' rooters have haunted a number of us. Recollections of other attempts in which a back has found a surprising opening and stepped gracefully across the goal line without a hand being laid on him certainly indicate a defensive strength and weakness to which we must adapt our attack.

Width and Depth Strength

This defensive strength and weakness in its relation to position of the teams on the field may be termed width and depth strength.

"Ah!" some defensive coach may exclaim, "I'll just use some of my depth strength to increase my width strength as the opponents approach my goal line, but, 'Alas!' I would have to reply, 'I've tried it.'"

Theoretically, the defensive width strength remains constant on any part of the playing field, while the defensive depth strength increases in proportion to the nearness of the defensive team to its goal line. Therefore, successful goal line attack must seek to penetrate through the width weakness of the defensive team rather than try to push through its depth strength.

AFTER winning letters in all major sports during his college days at Dakota Wesleyan University, Mitchell, South Dakota, Stewart A. Ferguson began his coaching career in the high schools of Lake Charles and Alexandria, Louisiana. He returned to his alma mater in 1929, where during a stay of five years Dakota Wesleyan made the best all-sports record in its history. In 1934, Ferguson went to Arkansas Agricultural and Mechanical College at Monticello as Director of Athletics. He has done graduate work at the University of Illinois, the University of Southern California, Tulane University and Louisiana State University. He obtained a master's degree at Louisiana State and is now working on his doctorate in physical education at this same institution, having temporarily given up some of his active coaching duties. During the past summer, he taught in the newly established School of Physical Education at Louisiana State. Many coaches may not agree with the theories and practices outlined by Ferguson in this article. "I know that my ideas are not always orthodox," he writes, "but I believe that we coaches have been too slow to experiment and too conservative in our acceptance of the traditional."

From the above statement, it would seem that wide plays should be most effective near the goal line, but a fast-charging defensive line soon nullifies this belief.

The Split or Divided Line

There is a way in which width strength may be attacked without exposing the offense to the danger of the fast-charging line. That is by use of a split or divided line. It is my belief that no consistently strong goal line attack can be developed which does not involve the spreading of the defensive line.

Practical application of the foregoing idea has brought the writer unusual success in goal line attack. Because I have had little more than average success as a coach, I hope to be forgiven for making the statement that my teams have failed to score from inside the 10-yard line but three out of something more than fifty attempts in five years. As a skeptical grin spreads over the face of the reader, I venture the further statement that my teams scored more often from inside the 10-yard line than they made (in proportion) first downs outside the 10-yard line.

In answer to the question of why the plays carrying out the theory were not used as a basic offense, if so good, I will state that I was forced to use them during two seasons because of unusually light and inexperienced material. Using them, we made a large number of first downs,

but won few games, for the formation, naturally, does not result in long gains. Also, too many accidents happen in a succession of ten to twenty plays with an average team to arrive often within the 10-yard line. However, during those seasons, though unsuccessful ones, our teams made more first downs than any and all of our opponents.

Before applying the spread or split line principle to touchdown plays, we may clarify our problem by considering the situation of the defensive team near the goal line in order to avoid playing into its strength.

The Defensive Line Near the Goal

A good goal line defense works as a unity. It becomes more compact as the goal is approached—linemen playing almost within touching distance of each other, and backs set to fill instantly any opening that may develop in the line.

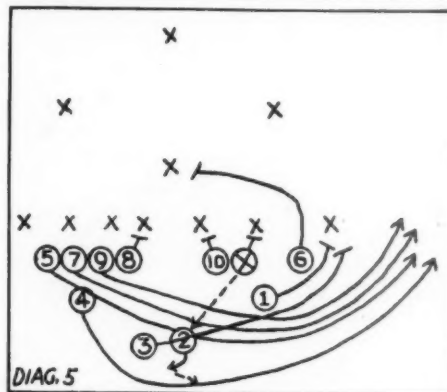
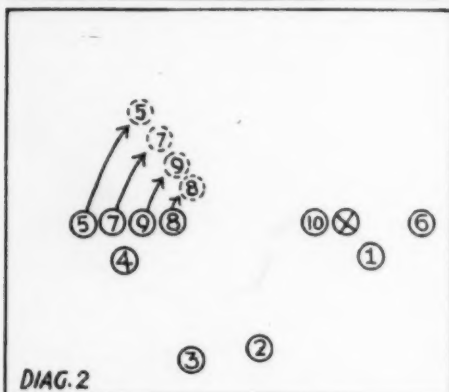
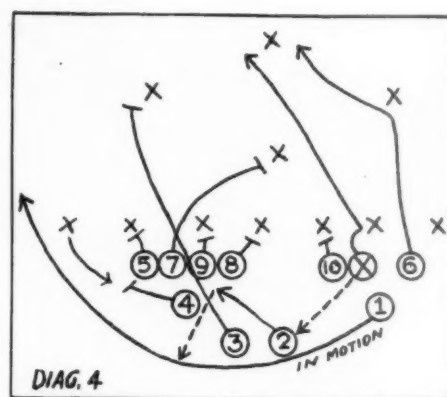
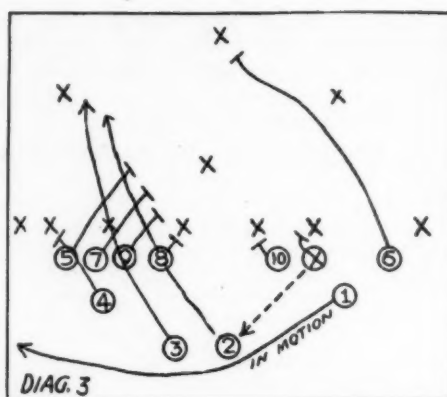
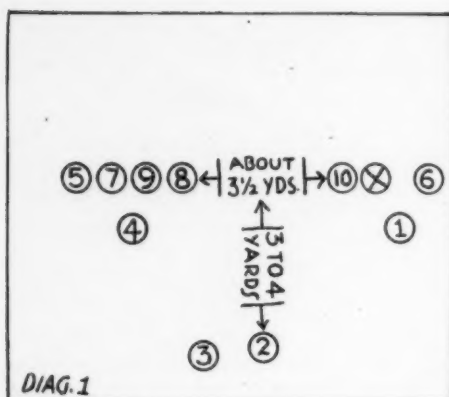
What the defense wishes most is an unbroken line of scrimmage on both sides of the ball. That they sometimes produce by grabbing legs and always attempt by cluttering the ground with fourteen obstacles (themselves and the opposing linemen) to a clear path to the goal. Place fourteen tackling dummies in a space of eight or nine yards, and you have cut the paths to a touchdown to a few narrow spaces. I know that some teams take the defense out and leave wide paths, but those teams never need touchdown plays—with them anything is good.

By using a split or divided line, we destroy the compact unity of the defense. In doing this, we have made the defensive players think about their spacing in relation to one another. Psychologically, we have given them a problem to keep in mind, and we know that a wondering and speculating player lacks the smashing drive that lands so many backs on their necks in touchdown territory.

Another value of the split line, if not used before reaching touchdown territory, is its sudden effectiveness for the first few plays. I have learned from experience that few men possess the instinctive defensive ability to adjust themselves to a new situation except by experiment. And, by the time the defense experiments a few times, we hope to have a touchdown.

Principles of the Divided Line

A line with open spaces within it is longer than one without such spaces, and a longer line is not welcome to the defense for obvious reasons. The defense must cover those open spaces at least visually, thus relieving some pressure on good of-



fensive men. Then, too, better blocking positions can generally be obtained by offensive players through the use of the split line. So, the first principle of attack then lies in the creation of open spaces in the offensive line to suit the fancy of the coach.

Another attack principle is the placing of the ball-carrying back so close to the line of scrimmage that the defense will not have time to shift or sift into a developing hole. A back more than four yards behind the line of scrimmage presents too vivid and too clear a picture generally to fail to be ensnared in a defensive net that strengthens in proportion to the distance the back is behind the line of scrimmage.

A third principle is the driving of the back toward the goal line without offering him opportunity for changing his path, for changes of decision result in hesitation, and hesitation is fatal within the 10-yard line. A hole which does not open until slightly before the ball-carrier reaches it has been the answer to many a coach's prayer.

Touchdown territory is one of intense excitement, and a premium has often been paid on the insurance of having a play so simple that no excitement can be great enough to cause hesitation on the part of the players in recalling duties or assignments. Of course, we coaches always keep our heads in such situations even though they may be jutting idiotically through the tattered crown of a new hat! But, players are players.

The "Swinging Door" Strategy

Some of you may have agreed with me up to now, and, if you have, all we need

is a play employing and emphasizing the above principles. Formation of the play is the easy and interesting part of the argument, and many of you will be able to formulate one better than I.

In making my play, I have not given my players the benefit of the doubt in regard to smartness. My play involves the simplest of actions. I believe that my goal line plays have worked with the same efficiency regardless of the mentality of my players. In fact, I have made the statement that the play worked best with the least intelligent group of players I have had, which may raise a chorus of aspersions on my play. But, like most Arkansas farmers, I care little how it rains, just so it rains.

The formation I have used is illustrated in Diagram 1. The men, of course, must be spaced in relation to their speed and stretch. The ball-carrier must be so placed that he will be able to reach the scrimmage line before men can fight through the hole to tackle him. The center must develop a one-handed pass or station himself sideways. The men forming the "swinging door" must play very close together. The men numbered 5, 7, 9 and 8 form the "swinging door," which opens forward as any door would, with number 8 acting as the pivot. These men must charge low, keep close contact with one another, regardless of the offense, and end their charge in a position almost vertical to the line of scrimmage. Seldom will they have more than one man to carry in front of them.

The door opens as illustrated in Diagram 2.

Explanation of Touchdown Play

The best touchdown play is shown in Diagram 3. Number 2 back (the ball-carrier) steps forward with his left foot and receives the ball before taking another step. To attempt another step would bring the knee of the right leg in a position to deflect a low pass from center. The ball-carrier hides the ball in his stomach and drives hard, very low and straight for the rump of lineman 8 and continues his drive behind the other men of the "swinging door." The ball-carrier must not step to the left off a straight line to 8. If he does, he will be

caught, for the timing is very close. Number 3 back drives forward as personal interferer. Number 4 back advances a step with the "door," and then quickly steps into the opposing tackle (a knee block generally works best in this position) and holds the tackle momentarily in his position.

As stated above, 5, 7, 9 and 8 form a "swinging door" which opens, disregarding everything not directly in its path. Number 8 acts as the pivot and occasionally may have to bump a fast-charging lineman coming through the gap. Number 10 keeps defensive men from coming through the gap too rapidly. Number 6 cuts for the secondary defense. Number 1 back can generally be used most effectively by having him in motion when the ball is snapped, although we use him as a threat directly behind the center some of the time.

The same play may be used with the men forming the "swinging door" splitting, two blocking in each direction. Many variations can be worked out of the formation with pleasant offensive surprises.

The defensive fullback is generally caught by the "swinging door" as he advances to meet the play. If he does not advance, we have our three yards anyway, a gain which is sometimes all that is necessary.

Check Plays

The play may be stopped, but not without offering opportunities for the simplest of check plays that may be developed by any coach or team on a moment's notice.

I shall offer but one check play to prevent the ends and tackles from charg-

ing in too rapidly. This is illustrated in Diagram 4. Number 2 back takes the ball, starts toward 8 and laterals to 1, who is in motion when the ball is snapped.

Many of you have probably considered a strong "Statue of Liberty" play something like that shown in Diagram 5. Again 2 receives the ball and goes back to fake a pass. The ball is carried to the right

by 4 with 3, 5, 7 and 9 in the interference.

In conclusion I shall offer a few words of warning. Several times I suspected that the five thousand members of the downtown coaching staff in a city of ten thousand where I coached for a time had agreed in consultation that the plays were not orthodox. No guards were pulling out, the secondary was not being cut down,

a hole was left wide open in the middle of the line. Anyhow, the plays were too simple. You who *are* experts may agree with them. But, if you will try working out the principles and plays, I feel sure that you will lose many 10-yard line worries. Now, I should appreciate having someone telling me how to get to the 10-yard line.

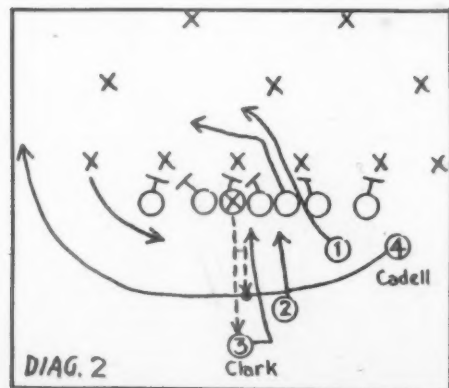
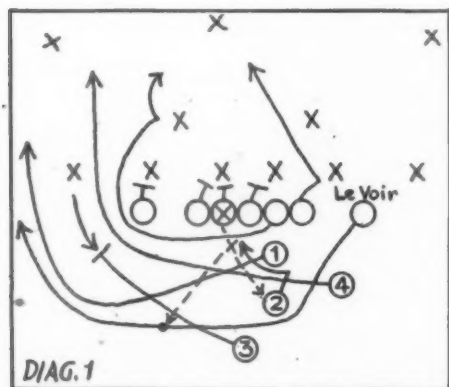
Current Trends in Offensive Football

ALTHOUGH the first week of October is too early in the football season to determine definitely the trends offensive football will take during the year, much may be learned from a careful study of the material presented at the summer coaching schools by leading coaches of the nation.

The annual game held in Chicago late in August or early in September between the leading professional team of the previous year and a selected team of players who have just completed their collegiate competition is also indicative of the course football will take during the year, as this game is studied carefully by many coaches.

The two scoring plays of the game between the College All-Stars of 1936 and the Detroit Lions are shown in Diagrams 1 and 2.

Diagram 1 illustrates the play on which

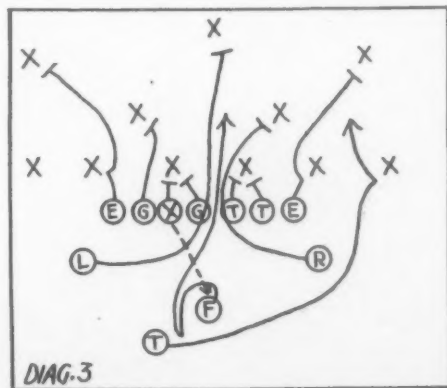


LeVair scored for the College All-Stars. On this play, LeVair, ordinarily a back, was shifted to right end. The ball went to 2, who faked to the right and then hit toward the line, passing backward to LeVair, who had pivoted to his left and gone behind his own line. The play may go either outside or inside the defensive right end. Assignments of the other players are as illustrated.

On the Detroit Lions' scoring play, Clark faked a buck into the line and, without looking, tossed the ball back to Cadell with his right hand. Cadell went wide to the left all alone. Few backs can throw a backward, blind toss such as that used by Clark on this play.

Three plays demonstrated last summer at the West Texas State Coaching School by L. R. Meyer, Head Football Coach of Texas Christian University, are shown in Diagrams 3, 4 and 5. In the system used at Texas Christian, Coach Meyer designates backfield players as right wing, left wing, fullback and tail-back. Tackles are known as inside and outside tackles.

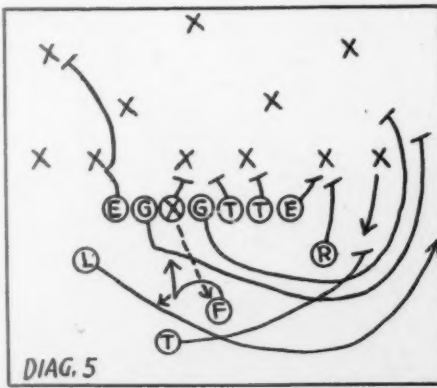
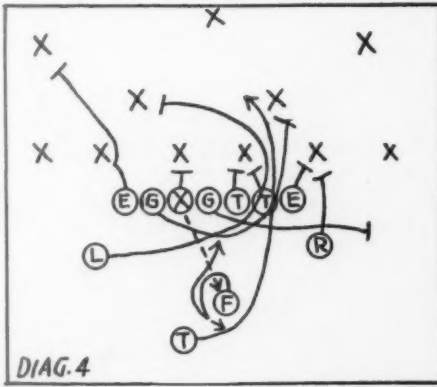
In the play illustrated in Diagram 3, the ball goes to the fullback, who half spins, fakes to the tail-back and then goes over center. The tail-back fakes for the ball, blocks the opposing left end out and goes down for the secondary. The ends block the opposing tackles for two counts and then go down for the defensive half-backs. The left guard goes through for the opposing center who is backing up the line. The center and the right guard take

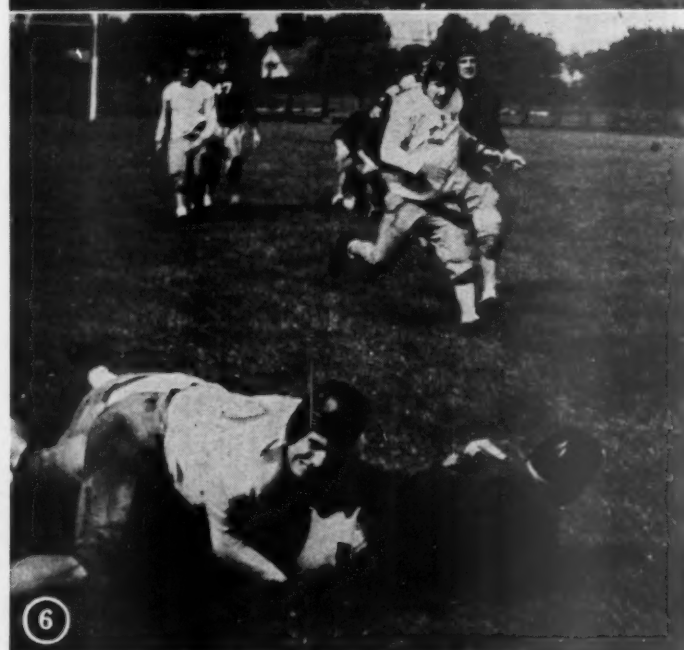
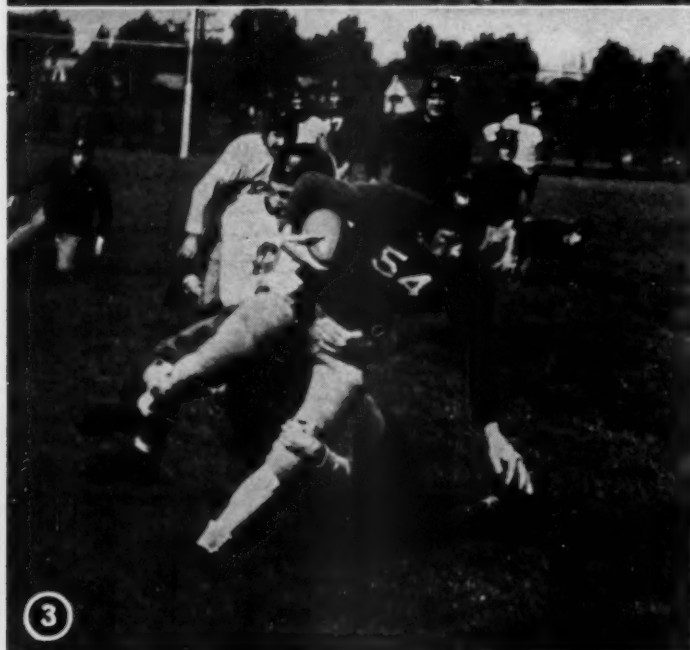
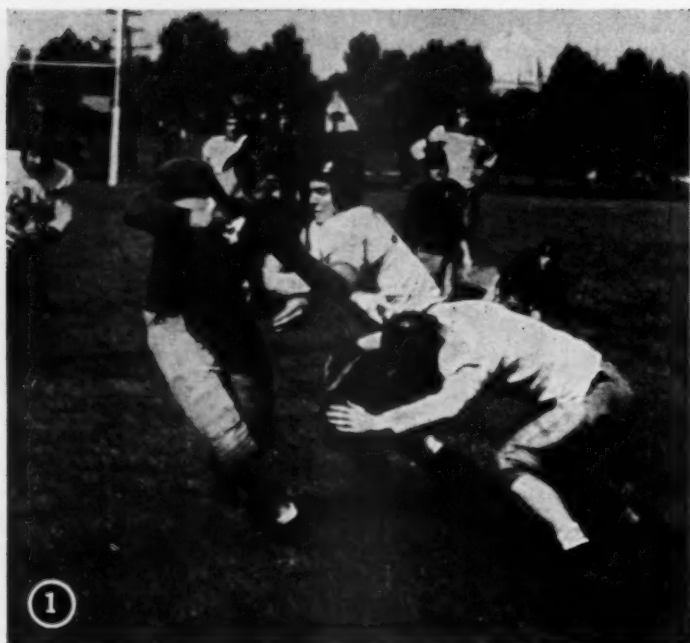


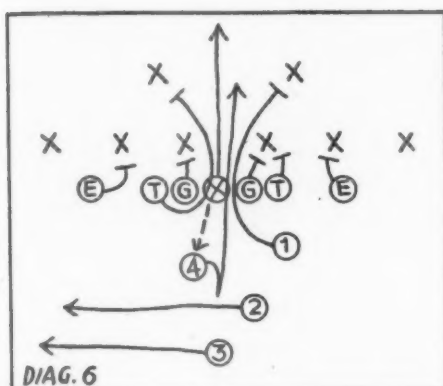
the opposing guard out. The inside and outside tackles take out the guard opposite them. The wing-backs lead the play through the hole, the right wing being designated to take out the defensive full-back.

In Diagram 4, the ball goes to the fullback, who spins and gives it to the tail-back. The right wing and the right end take out the opposing tackle. The inside and outside tackles take the opposing guard in. The center blocks the opposing guard. The left guard and left wing lead the play. The left end checks the opposing tackle and goes on for the secondary. The tail-back carries the ball as indicated.

As in the plays shown in the two previous diagrams, the ball goes first to the fullback in the play illustrated in Diagram 5. The fullback half spins and gives the ball to the left wing on a wide sweep. The tail-back goes by the fullback and blocks







the opposing left end in. The right wing and the right end block the opposing tackle in. The outside tackle blocks the opposing guard in. The inside tackle fills the gap to his left. The center blocks the opposing guard. The left end blocks the opposing tackle and goes down for the secondary. The right guard and left guard lead the play wide.

A series of plays to the left half from punt formation are illustrated in Diagrams 6, 7, 8, 9 and 10. These were presented last summer at the University of Denver Coaching School by D. X. Bible, Athletic Director and Head Football Coach of the University of Nebraska.

The first play of the series, shown in Diagram 6, is a fake reverse into center. The ball goes to 4, who half spins and fakes to 2. Both 2 and 3 fake to the left.

An example of open field tackling is shown in Illustrations 1 through 6. The ball-carrier is Les Lindberg, former University of Illinois back. These photographs are from a scrimmage between two teams of former college players in Evanston, late in August, 1936. They were taken by H. A. Wilde with a Candid Eyemo, a motion picture camera with an unusually fast lens. Note the absence of blur in even the most rapid motion.

Illustration 1—Lindberg is attempting to straight-arm one of his tacklers. The tackler on the right in the picture is attempting to duck under the straight-arm. He has his head down and his eyes are off his target, which is a mistake. Perhaps a better tackle in this instance than the shoulder tackle being used would be a rolling chest tackle.

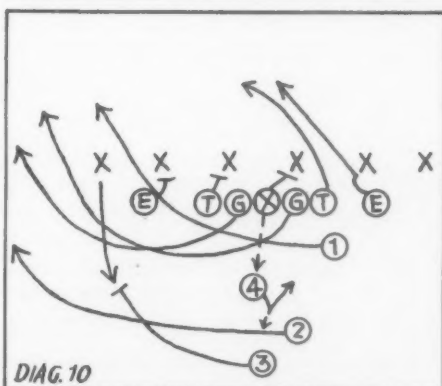
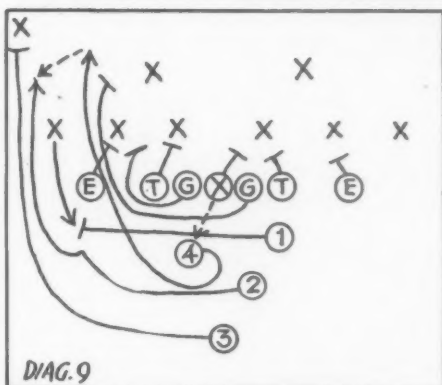
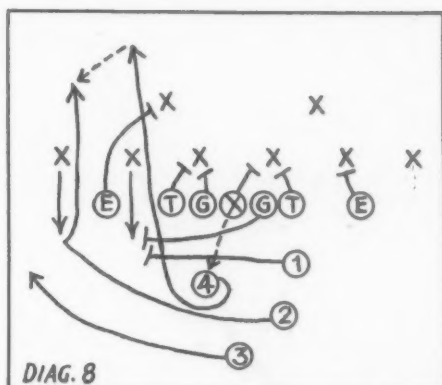
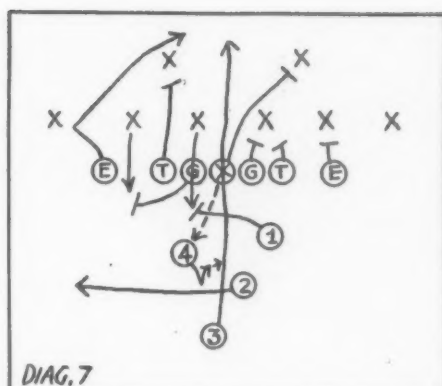
Illustration 2—The tackler on the right has his head behind the ball-carrier. Some coaches teach the shoulder tackle in this manner. Others advocate placing the head in front of the ball-carrier.

Illustration 3—The tackler on the right has not used sufficient leg drive. His hands have almost slipped off the ball-carrier and his own knees are on the ground.

Illustration 4—The ball-carrier is using good leg drive and is gaining ground after being tackled. The tackler on the left in the picture has grasped the ball-carrier too high to be effective.

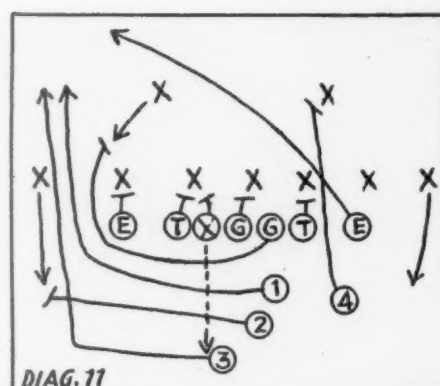
Illustration 5—In this picture, the ball-carrier is falling forward, as he should. However, if he had both hands on the ball, he would be in less danger of fumbling or of spraining his left wrist.

Illustration 6—Although the runner is down, he has made forward progress after being tackled.



The ball-carrier, 4, is preceded through the line by the left tackle and 1, who take out the two line-backers. Blocking in the line is as illustrated.

Diagram 7 illustrates a fake reverse followed by a center smash by the tail-back. Backs 1 and 2 fake to their left. Back 4, who receives the ball from center, half spins, fakes it to the fullback, 2, with his right hand and then gives it to the tail-back, 3, as the latter goes by on his way



into the line. The diagram shows assignments of the linemen.

A fake reverse inside tackle is shown in Diagram 8. Backs 2 and 3 fake to the left. The right guard and 1 take out the opposing right tackle. The left tackle and left guard team on the opposing guard. The left end goes across for the nearest line-backer. Back 4 makes a full spin and goes inside tackle. After he is across the line, he may lateral to 2, who has checked the opposing right end before going down.

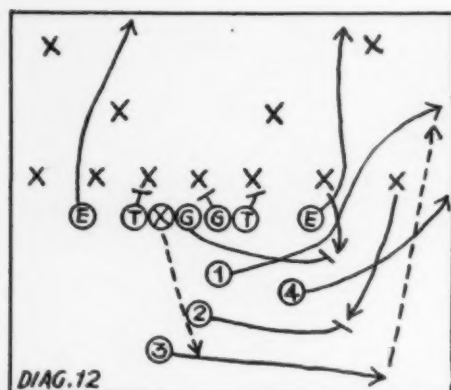
A fake reverse outside tackle is illustrated in Diagram 9. This play differs from the previous one in other respects than the course of the ball-carrier. The left end blocks the opposing tackle in. The left guard helps the left end. Back 1 stops the opposing right end. The right guard swings around to his left and goes down for the secondary.

Diagram 10 shows a reverse outside end. The ball goes to 4, who half spins and gives the ball to the fullback, 2. The latter runs wide, with the two guards and 1 as interferers. Back 3 blocks the opposing right end in. Other assignments are as illustrated.

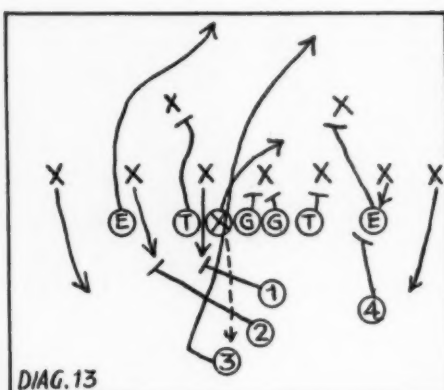
A drive off the short-side tackle is shown in Diagram 11. This was illustrated at the Northwestern University Coaching School by B. W. Bierman, Head Football Coach of the University of Minnesota. The ball goes to 3, who runs wide to his left and then cuts back sharply. Back 2 takes out the opposing right end. The right guard and 1 precede the ball-carrier as interferers. The left end takes the opposing tackle in. The left tackle and the center block the opposing guard. The left guard blocks the opposing center. The right tackle blocks the opposing guard. Back 4 and the right end go down for the secondary.

A Minnesota running pass presented by Coach Bierman is shown in Diagram 12. Back 3 takes the ball on the run and goes wide to his right. Back 2 blocks the opposing left end in. The two ends go down the field. Back 4 goes into the flat zone to his right. The pass is thrown to 1, who has gone down and to his right. The left guard pulls out of the line to stop the opposing left tackle.

In Diagram 13 is shown a Bierman mousetrap play over center. The oppos-

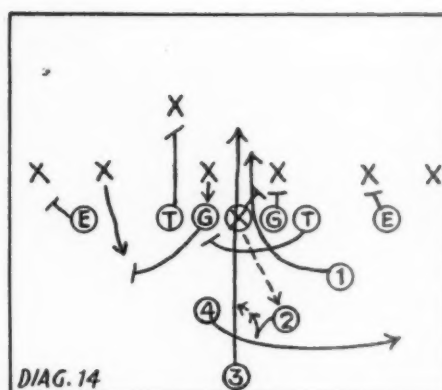


ing right tackle and guard are allowed to charge across the line and are then taken out by backs 1 and 2. Back 3 starts to his left to draw opposing players across the line and then goes over center. The two guards team on the opposing center. The right tackle blocks the opposing guard. The two ends and the left tackle go down for the secondary. Back 4 keeps



the opposing left tackle from charging through too fast. The center also goes across for the secondary.

Diagrams 14, 15 and 16 illustrate three plays from a balanced line as presented, last summer, at the Shaker Heights Coaching School of Cleveland, Ohio, by Don C. Peden, Head Football Coach of Ohio University. In the play illustrated



in Diagram 14, the defensive right guard is allowed to charge across and is then cross-blocked by the right tackle. The ball is passed to 2, who fakes it to 4 and then gives it to the tail-back, 3. Back 1 acts as personal interferer as 3 carries the ball over center. This play requires good blocking by the center and right guard.

(Continued on page 48)

Unusual Pinning Combinations in Amateur Wrestling

By Richard K. Cole
Brown University

IN amateur wrestling, and especially that in high schools, about ninety per cent of all falls are gained by the use of the half nelson and crotch or half nelson and wrist holds. These combinations are the first pinning maneuvers that all coaches teach beginners, and it seems that they are a very effective means of gaining falls in competition. However, they do not display spectacular wrestling tactics nor do they show any evidence that a wrestler has knowledge of advanced or complicated pinning combinations.

Coaches are able to teach their men breaks and defenses for these simple grips and thus prevent falls. If, therefore, a man's sole knowledge of throwing holds is limited to the half nelson and its accompanying combinations, he is handicapped when working with a man who knows the defense and breaks for them.

Developing Wrestlers

I am an ardent believer in teaching by the whole; that is, in the imparting of all the knowledge of the game that I have at my command to members of the entire squad, be they beginners or veterans. Very seldom is a wrestler made in a year. Only a "natural" catches on to the swing of wrestling so soon. However, after two or three years of practice on many holds and maneuvers, a man may blossom into a finished grappler.

Through the course of time and through

habitual participation in advanced wrestling, a competitor learns much about the game and is able to use his knowledge to great advantage. Many times I have seen mediocre wrestlers who have had a few years of experience become sparkling champions almost, it would seem, instantaneously. Perhaps early in their competition they were bewildered by the complication and endless possibilities of wrestling. But suddenly they found themselves, and their previous years of initiation were invaluable to their success.

By the above statements I do not mean that the fundamentals of the game should not be given due consideration. A month on rudiments should be sufficient for beginners, after which they should be allowed to practice and wrestle with seasoned men. I contend that anyone who is pitted against a finished competitor in

IN his senior year at Iowa State College, Richard K. Cole won the 135-pound National Collegiate wrestling championship. After graduating in 1931, he was named wrestling coach at Brown University. Since the early part of 1932, Brown teams under Cole have produced twelve individual New England wrestling champions and ten runners-up. In 1936, the Brown wrestling squad won the New England Intercollegiate championship. Cole is attempting to popularize leg wrestling throughout New England.

any sport will learn more and derive more benefit than one who competes against a mediocre or inferior adversary.

Teaching Many Holds

I wish to stress strongly the importance of teaching many pinning combinations. The more a man knows about any sport the better he will be in that sport. Many times a man with only a limited knowledge of the game will still be a fair wrestler. But he is lost when he meets an opponent who has a complete knowledge of various holds.

Nearly all good wrestlers have at least three pinning holds which they have developed to a high degree. They have practiced and worked with these holds tirelessly and have mastered them. A splendid procedure for becoming a real mat artist is for an athlete to take several pinning holds and develop them into his own "pet" combinations. Every good wrestler has his own favorite method of attack and he has learned it so well that he is able to work it on almost anyone he meets.

Wrestling is a great game to watch. The spectators want action and spectacular participation. To my mind, there is nothing more exciting than to witness a well conditioned, well trained and clever man exhibit his ability in advanced grappling by applying difficult and intricate grips on his opponent.



Illustration 1—This picture shows one of the starting positions of the double arm lock from behind. The offensive man (in black tights) crosses his arms under, and hooks his hands over, the upper arms of his opponent. From here, he throws his opponent sideways and, with the help of his leg, lifts him to a pinning position.

Illustration 2—Here is shown a fall from the double arm lock from behind. Notice that the offensive man has one leg thrown over his opponent's chest.

Illustration 3—This illustration shows the start of a fall from the waist lock. From a referee's position, the offensive man falls to his side, pulling his opponent on top of his legs. By means of his right knee, the offensive man lifts his opponent to the latter's shoulders.

Illustration 4—Here is shown a fall with the waist lock. Note how well balanced the man who is applying the hold. The offensive man has a grasp on his own knee and pushes forward, bringing his opponent's chin against his chest, thus preventing a bridge.

Illustration 5—The start of the near arm-and-arm grapevine and further half nelson is here illustrated. The offensive man applies pressure with his half nelson and thus brings his opponent's shoulders to the mat.

Illustration 6—This picture shows a fall from the near arm-and-arm grapevine and further half nelson. The higher the position maintained by the offensive man, the more effective is the hold.





Illustration 7—This illustrates the start of the double wrist lock from underneath. The offensive man goes into a bridge and turns in toward his opponent, at the same time turning him to the mat.

Illustration 8—The offensive man quickly assumes a kneeling position after he has turned his opponent over. From here he lifts the wrist lock up, bending his opponent's elbow, and proceeds to apply the key lock.

Illustration 9—This picture shows the application of the key lock. It is necessary to have the hold tight before proceeding to a fall.

Illustration 10—A fall is shown from the key lock. The offensive man draws his right foot up as a brace and remains parallel with his opponent. To secure a fall, it may be necessary for the offensive man to lie across his opponent's face.

Illustration 11—This picture shows the start of the three-quarter nelson and leg hook. The offensive man has his knee between his opponent's legs. From here, he pulls his opponent's head under, bringing the shoulders to the mat. Note the characteristic wrestler's hand grip.

Illustration 12—Here is pictured a fall from the three-quarter nelson and leg hook. Note that the offensive man now has a hook scissors on one of his opponent's legs. This is a rather difficult hold to work, especially if the opponent has a strong neck.





Illustration 13—This illustration shows the start of a leg and arm grapevine and further half nelson. It is a spectacular combination and can be mastered only by persistent practice.

Illustration 14—Here is shown a fall from the leg and arm grapevine and further half nelson. The offensive man now has a hook scissors on his opponent's left arm and has grasped the other arm at the wrist.

Illustration 15—This picture illustrates the start of a double arm lock from underneath. The offensive man has a bar and chin hold upon his opponent. From here, he pulls his opponent to his back.

Illustration 16—While the offensive man is pulling his opponent to his back, he pushes both hands through and locks them above his opponent's armpit, as shown. From here he proceeds to throw his opponent by tightening his grip and pressing down with his chin.

Illustration 17—This photograph shows the beginning of the leg split. The offensive man has a leg grapevine on one leg and an arm lock on the other. From this position, he falls backward or forward, carrying his opponent with him.

Illustration 18—Here is shown a fall from a leg split. The offensive man tightens his hold and pushes forward as much as possible.

Illustration 19—This picture shows a further development of the leg split. A half nelson is applied with the right arm, and the opponent's right arm is drawn under the chest. This is a very effective pinning combination.

The ATHLETIC JOURNAL

Nation-Wide Amateur Athletics

Vol. XVII

October, 1936

No. 2

Published by
THE ATHLETIC JOURNAL PUBLISHING CO.
6858 Glenwood Avenue
Chicago, Illinois

JOHN L. GRIFFITH, Editor

The Football Situation

WITH a good football season in prospect, college football men throughout the country are optimistic regarding the 1936 season. The coaches are not predicting that their teams will win, but thinking of football in general terms. Almost without exception they are predicting that this will be a good year. When they speak of a good year they perhaps have in mind a better year than was 1935, which was also a good year. The fact is that football has been growing in every respect almost from the beginning of the game. There have been periods in which football seemed to be in a bad way, such as back in 1905 when President Theodore Roosevelt took the initiative in calling attention to the fact that college football was a game worth preserving. During the depression, football was adversely affected from a financial standpoint. I should like to analyze the factors which enter into the success of football.

In the first place, the rules have been stabilized, and we are safe in assuming that there will be very few if any radical changes in the playing code for some time. The baseball rules are satisfactory and annually are changed only in minor details. Baseball, however, is older than is modern football. Football today has come of age. We have a good game, a game that does not require radical readjustments. With the Rules Committee committed to the policy of standardizing and stabilizing the code, the spectators will come to understand penalties and the decisions of the officials. This is a good thing for the game.

In the second place, while much has been written about systems, after all, success in football depends more upon human endeavor, courage and physical ability than it does upon systems. There are today half a dozen good systems in use throughout the colleges and these add variety to the game. Football would become a drab contest if it ever became mechanized. There is no danger that this will ever happen.

In the third place, the public interest in the game, as evidenced by the advance ticket sales, will be greater this year than it has been for a number of

preceding years. The autumns of 1927 and 1928 witnessed the largest crowds that have ever attended college football games in this country. With the depression the attendance decreased, and 1932 registered the low point in attendance. Since 1932 the attendance has been steadily increasing. In the Big Ten Conference, the attendance in 1935 was 26.208 per cent ahead of the attendance in 1932. The present demand for tickets makes it safe to predict that the attendance at the 1936 games will be materially greater than was the attendance in 1935.

The greatest problem that confronts college football is that of keeping it on an amateur basis. As the game has grown in popularity, many plans have been put into effect which tend in some form or other to lead toward commercialism in the game. The problems that are to be found in amateur athletics are not peculiar to that institution. They are to be found in all of life's competitions. None of our human institutions, football included, is perfect, but the fact that the public expects amateur athletics to be perfect is encouraging. So long as the newspapers, educators and the public generally protest against the prostitution of amateur athletics, we need have no fear that football or any of the other amateur sports will go the way of all games that become too highly professionalized. Even today, with the spirit of commercialism prevalent throughout the world, the vast majority of our college football men are amateurs in spirit and in fact.

Equipment

FOR a number of years, the school and college coaches have been forced to economize in the matter of player and team equipment. Old football suits have been patched, old pads used when new ones should have been purchased, and shoes that ought to have been relegated to the scrap heap have been worn by the players.

With the return of athletic prosperity, all this will be changed. The first concern in the matter of football equipment should be the safety of the players. Each year the manufacturers improve the pads, helmets and shoes. The boys who today go into a game wearing modern equipment are infinitely better equipped than were their predecessors of twenty or twenty-five years ago.

Not only is the equipment of today superior to that of other days; methods have been devised for prolonging the use of the equipment. Back in the boom period, no doubt, many a shoe, pad or ball was permitted to deteriorate when with a little care and the use of proper materials these items should have been long lived. The men who manufacture athletic supplies are engaged in a highly competitive business; consequently each strives to improve his product, knowing that the coaches are eager to purchase only the best.

The manufacturers have not only added to the safety features of the equipment, but they have also joined with the coaches in producing wearing apparel that adds to the attractiveness of the teams.

Football is a great spectacle. It is not maintained solely for the purpose of putting on a show, but there can be no criticism leveled at those who see to it that their teams make a presentable appearance. In the army, it has been found that when the enlisted men are required to give attention to neatness of clothing and person the morale of a command is superior to the morale of one made up of men who do not shave, who do not wear attractive uniforms and who, consequently, do not present a soldierly appearance. In the same way, a football team that is properly outfitted may be expected to have a better morale than has a team that appears on the field with loose and ill-fitting garments and with rundown shoes.

Enduring Attitudes

SOMEONE has said that only 25 per cent of the skills and knowledge learned in school are retained for five years, while 75 per cent of the attitudes and personality traits learned are retained for this same length of time. If that is true, then it is interesting to ask how and where our attitudes are formed and shaped. We have always felt that our attitudes toward life, our philosophy of life, are at least partly formed and developed in connection with school and college athletics. We have gone back through the early files of the *ATHLETIC JOURNAL* to see if the ideas that we tried to advance then were radically different from our present opinions and ideas.

We find, for instance, in the September, 1921, issue that the Editor of the *ATHLETIC JOURNAL* pledged that the magazine would be used for certain things; among them he pledged that it would be constructive and not destructive. Athletics teach a boy to win on his own merits. In the race he is not permitted to do anything to his opponent that his opponent does not have the same right to do to him. There is an age old philosophy of destruction very much in evidence in the world today as opposed to the philosophy of construction. In the words of another, "It is the philosophy of evil as opposed to the philosophy of good." Many whose minds are intrigued by the idea of destruction believe that the cause of human suffering is the natural concomitant of the institution of private property. Therefore, such people preach the destruction of the private property institutions and the leveling down of society. It is not strange that those who subscribe to this philosophy are opposed to competitive athletics. Neither is it strange that our athletes are not to be found among the destructionists.

In the November, 1921, issue of the *ATHLETIC JOURNAL*, the Editor called attention to the fact that at football games it was customary to raise the flag and that while the flag was being raised the band played the National Anthem and the spectators and players stood at attention. At the end of the article appeared the following, "The man who is loyal to his school will usually be found to be loyal to his country and likewise the student who is loyal to his country may be expected to be the most loyal to his school." What has this to do with athletics in

1936? Just this. For a number of years it has been considered smart in some circles to ridicule patriotism, whether patriotism was expressed in terms of loyalty to country or loyalty to school. Our whole amateur athletic institution is based on the idea that a competitor should be loyal to himself, which means that he should be loyal to the cause, to sportsmanship and to the ideals and traditions of sport in his school and his country. The best school of Americanism today is that presided over by our school and college coaches who believe in their country.

Further, if we may be pardoned for again going back to ancient history, we may point out that in the February, 1922, *ATHLETIC JOURNAL* is an editorial on competitive athletics. The Editor in that article called attention to the fact that those who objected to the popularity that football had gained were very often those who were animated by the human quality of jealousy. This discussion of competition nearly fifteen years ago is interesting when today so many people are convinced that the only way in which Utopia may be reached is by abandoning the whole idea of competition. In the December, 1924, *ATHLETIC JOURNAL*, the Editor discussed the question of whether or not the practice of developing champions was compatible with the educational ideal. He called attention in that editorial to the fact that in the schools and colleges students were urged to do their best and that the honor students quite properly were given their full meed of praise. In other words, in education as in our other institutions, we have not attempted to place a limit on how tall men may grow so long as in their growing they do not interfere with the opportunities of others likewise to grow tall.

The Editor of the *ATHLETIC JOURNAL* sixteen years ago believed that athletes should be given full opportunity to rise to the top; that they should be taught to compete with a fine regard for the rules of competition; that in meeting and overcoming obstacles, in striving and sacrificing, sturdy character was developed; and that those who paid the price for victory were more entitled to praise than were those who through lack of ambition to succeed and through lack of ability to assimilate punishment in achieving success had failed to win the prize.

If the time ever comes when the philosophy of the play fields is rejected, then our whole free enterprise system will crumble, and the United States will go the way of other nations that have flourished for a brief time and then passed out.

A famous Englishman once visited President Theodore Roosevelt in the White House. This man, so it is reported, turned to the President and said, "Mr. President, other nations have come into existence; they have grown strong by overcoming obstacles in the early days of their national life; have become prosperous and powerful and then have declined. What reason have you for thinking your country will be an exception to the rule?" Theodore Roosevelt thought for a moment and then in his characteristic, forceful way shook his finger and said, "That which will make America the exception to the rule is the spirit of the American people."

Touch Football in the Junior High School

By Aubrey R. Bonham
Public Schools, Whittier, California

MOST physical education instructors agree that regulation football as played in high school and college is too hazardous a game for the junior high school boy. If the coach or instructor can successfully teach the boy of this age a form of football, namely, touch football, a game that has a minimum of hazards and a maximum of football skills, he will have accomplished much for the welfare of the boy.

Touch football is a game that will satisfy the requirements of the parent, the administrator and the boy. It has been made so interesting in some communities that it has replaced regulation football, not only at school but on the sandlot as well.

There is no doubt that touch football is assuming an important place in high school and college, also. It may be played by boys who are unable or unwilling to play the more strenuous and dangerous game of regulation football. It may in time transplant the B and C football teams in the higher institutions and offer an opportunity for the great majority of boys who cannot play regulation football to take part in a varsity touch football league.

Rules

The form of touch football here presented has been used successfully with boys of junior high school age and is based on the beliefs that some contact must be allowed if the game is to hold the interest of the boy, and that as many football skills as possible must be placed in the game. For the safety of the participants in this game, any play that is outside the letter and spirit of the rules must be heavily penalized.

The following rules, penalties and tests were evolved from actual play on the field over a period of three years.

RULES

1. Each team has eleven players, whose positions are similar to those in football.
2. The game is played in four six-minute quarters.
3. Only the screen and "bear" blocks may be used as contact blocks. (The screen is a standing block. The "bear" is similar to the regular side block, the blocker's hands and feet being on the ground.)
4. Boys must block man-for-man.
5. A two-handed touch on any part of the body, except front, must be used instead of the tackle.
6. The team that is good enough to

AT Iowa State Teachers College, Aubrey R. Bonham played football, basketball and baseball while majoring in physical education. For five years, beginning in 1928, he coached at Algona, Iowa, High School, where he was particularly successful with track, basketball and wrestling. While at Algona, he was in charge of the summer recreation program of the community. In 1933, following advanced study in physical education at the University of California, both the Berkeley and Los Angeles branches, he joined the physical education staff of the schools of Whittier, California. During the summer months, he has headed the city's recreation activities for junior high school boys and girls.

block the kick will receive the ball at the spot of blocking without the usual pile-up.

7. The first boy to touch a fumbled ball is given the ball at the spot of the fumble.

8. Two incompletes passes over the goal line constitute a touchback.

Points and penalties are as follows:

	Points
Touching an opposing player with the ball in his possession behind his own goal line	2
Place-kick or drop-kick from the field..	3
Carrying ball or completing pass over or on goal line.....	6
Point after touchdown.....	1
Each first down.....	1
Pass is legal if made 2 yards back of scrimmage line.	

Penalties

Intentionally knocking down an opposing player	15 yards
Illegal block	15 yards
Pushing hard on tag.....	10 yards
Piling up on fumble.....	15 yards
Piling up on blocked kick.....	15 yards
Piling up on lateral fumble.....	15 yards
Holding on offense.....	15 yards
Holding on defense.....	10 yards
Offside on scrimmage.....	5 yards
Offside on kick-off.....	5 yards
Unsportsmanlike conduct.....	15 yards
Player in motion illegally.....	5 yards
Less than seven boys on scrimmage line on offense.....	5 yards
Illegal pass	Loss of down
Illegal receiver	Loss of down
Illegally lifting ball off ground	Loss of down
Interlocking interference.....	15 yards
Taking too long in huddle.....	5 yards
Illegal shift	10 yards

Interference with snapper-back..	15 yards
Touching ball receiver after fair catch	10 yards
Illegal forward pass.....	10 yards
Interference	
.....First and 10 at spot of foul	
Incomplete pass	No penalty
Backfield in motion.....	5 yards
Blocks other than screen on kick-off	15 yards
Roughing kicker or passer.....	15 yards
Using hand or fist without simultaneous body movement.....	15 yards
Kicking free ball.....	Other
team's ball—first and 10 at spot of foul	
Interference with punt receiver..	
.....10 yards from catch opportunity	
Touching receiver on fair catch..	10 yards
Knocking player out of bounds..	15 yards
Offside on kick-off (defensive and offensive teams)	5 yards
Calling signals by defense.....	10 yards
Failure of all offensive players to have two points down when ball is put in play.....	5 yards
Failure of players to maintain upright position on wedge.....	10 yards
Less than six boys on scrimmage line on defense.....	5 yards

Tests

Three different types of tests have been evolved, namely: play tests, skill tests and judgment tests.

Play tests come the nearest to game conditions. As an example, set up an offensive team consisting of a backfield, two ends and a center. Let this team run plays against a defense consisting of two ends, a center and a backfield. This tests the efficiency of the offensive team and shows the weaknesses of the defensive team.

Skill tests are important, as they show to what extent a boy will be proficient in playing this game, as well as regulation football if he should take it up later on. Skills that are essential to good touch football can usually be transferred to regulation football. Each boy receives instruction in these skills, and time is given during the two months of play for the development of them. A test system should be adopted for grading and giving out awards in these activities.

The test outlined in Table I totals 100 points. Boys making 55 points pass the test, while those with 75 points become honor students in football and receive
(Continued on page 26)



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IT WAS inevitable that the all-star aggregation which carried America to new triumphs in the International Olympic basketball contests should be equipped with Converse "Chuck" Taylor All Stars. America's star players naturally insisted upon wearing America's most preferred basketball shoes in the games which determined the world's basketball crown. The hand-picked players of the United States team flashed across the courts wearing Olympic All Stars, the red, white and blue shoes especially designed for our country's Olympic champions—the striking All Star that's now available to players everywhere for basketball and general use.



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The weight of all shoes has been held to a minimum. At the same time, the construction and made Spot-Bilt shoes more durable than ever.

Try this simple and convincing test. Put a Spot-Bilt shoe on your foot and compare it with another. Notice how much better Spot-Bilt shoes fit and feel. Your own experience prove that Spot-Bilt shoes are better basketball shoes.

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Uppers of high grade blueback horsehide. Leather tip and tongue lining. L. Moulded sole leather counter. Ventilating rubber heel cushion. Leather insoles. W. laces.

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Uppers of genuine blueback kangaroo. Lining. Leather tip and tongue lining. L. Moulded sole leather counter. Ventilating rubber heel cushion. Leather insoles. W. laces.

NO. 280 BLACK PANTHER

Uppers of genuine blueback kangaroo. Lining. Leather tip and tongue lining. L. Moulded sole leather counter. Ventilating rubber heel cushion. Leather insoles. W. laces.

NO. 292 WHITE PANTHER

Uppers of white elk. Full leather vamp and tongue lining. Leather toe snubbs. leather counters. Ventilating eyelets. S. cushion. Leather insoles. W. eyelets.

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ong lining. Leather toe snubbers.
untel Ventilating eyelets. Sponge
eather soles. White eyelets. White

BLACK PANTHER.

back kangaroo. Full leather vamp
ong lining. Leather toe snubbers.
untel Ventilating eyelets. Sponge
eather soles. White eyelets. White

WHITE PANTHER.

ull leather vamp lining. Leather tip
eather toe snubbers. Moulded sole
lating eyelets. Sponge rubber heel
White eyelets. White laces.

L. SHEILL CO.

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FLASH**



**WHITE
PANTHER**



Touch Football in the Junior High School

(Continued from page 22)

small leather football awards. There may be three variations in number and distance of these skills for the purpose of application to classifications A, B and C. These classifications are made according to size, weight and age. Couzens' Table of Coefficients will give the complete table.

varsities that played outside schools. Skills were taught during the school hours, while games were played after school.

School intramural leagues were organized according to home rooms and divided by grades. The seventh grade had its own league and pennant championship; the

weeks of touch football, one day was set aside for the two top teams in each league to meet in a championship battle.

Varsities were created by dividing boys who were interested, and *who had the consent of their parents*, into three varsity teams according to age, weight and height. The boys came into these divisions of their own free will to learn mastery of fundamental techniques. Outside schools were played. Varsity games occupied the two days of the week that were not taken up with intramural games.

Suggestions

1. In this game, use simplified versions of plays, formations, shifts and spreads employed in regulation football.

2. Make allowance in formulating plays for each boy to take part in every football skill situation.

3. As boys of junior high school age like to have new plays offered frequently, encourage the boys to find new plays that may be added to the group already learned.

4. Stress the fact that each boy must have an assignment on each play. Boys are prone to disregard the importance of certain team mates in the successful completion of a play.

5. In teaching simple shifts and spreads, the game may be opened up, but emphasize the fact that all boys should have some opportunity in ball handling.

6. Simplify the play numbers as much as possible; one method is to use even numbers for holes on the right and odd numbers for holes on the left.

7. In the construction of the plays for intramural and varsity teams, see that they are made elastic enough to fit all known formations in football such as the box, short punt, single wing, double wing, single spread, flanker, T formation and long punt. Let the squad make the first choice and change later.

8. Every boy should receive instruction in methods of centering a ball; in forward passing and hitting a moving target at 15 to 30 yards; in pass receiving while still, on the run, in the air, behind his back and while breaking out and in at many different angles.

9. He should be taught how to throw

TABLE I
TEST FOR BOYS IN CLASSIFICATION A

Points	Event	Distance	Number to be made
		Points given by coach	According to game play
10	Sportsmanship	Points given by coach	According to loyalty
10	Team play	Points given by coach	According to loyalty
5	Punting spiral	20 feet high	3 out of 5 tries
5	Receiving punt	High	4 out of 5 that the player gets under
5	Punting out of bounds	20 to 30 yards	3 out of 5—12 yard space
5	Passing	15 to 30 yards	3 out of 5—lead moving target correctly
5	Passing on run	10 to 20 yards	2 out of 4—leaving feet to pass
5	Receiving pass	20 to 40 yards	4 out of 5
5	Throwing overhand and underhand laterals	5 to 15 yards	3 out of 5 on the run
5	Receiving lateral pass	5 to 15 yards	4 out of 5 in position
5	Kicking off	20 to 40 yards	3 out of 5 in air
5	Open field running		5 out of 6 steps
5	Running ball with interference		1 out of 2
5	Place-kicking	15 to 20 yards	3 out of 5
5	Drop-kicking	15 to 20 yards	3 out of 5
5	Center pass	6 yards	4 out of 5
10	Use of hands—screening and holding blocks		4 out of 5 targets

Test for boys in classification B—1 less good try

Test for boys in classification C—2 less good tries

There are ways of saving time when giving such a test to a large group of boys. One method is to pick squad leaders for each test according to ability. For instance, a fine passer should be placed in charge of the passing tests, a good kicker in charge of the punting tests.

An example of one testing formation for a large group is shown in Diagram 1.

Judgment tests are used to determine a boy's judgment in calling plays according to position on the field of play. Various tests may be given, such as flash card questions with stop watch; and button football in which the coach sets up a black button defense and proceeds to move this defense into different weaknesses, asking the player to call plays against it.

Program

Construction and application of a program of touch football must be elastic enough to satisfy the demands of local school aims, and to meet with the approval of the administration and locality included within the school district. It must give every boy an opportunity regardless of ability or experience.

A two-way program that was worked out included school intramural leagues and

eight and ninth grades were similarly organized. One night a week was eighth grade night, one seventh grade night, one ninth grade night. A large bulletin board carried the schedules for the full seven weeks, with squares vacant for scores. Each team elected a captain who could be changed every three weeks. He had the responsibility of getting boys out, keeping filing cards on games played and the placing of men with the help of the coach.

There were three officials working each game under direct observation of the coach. These officials were taken from other leagues. It was found that improved officiating may be obtained by offering an official's award. To climax the seven

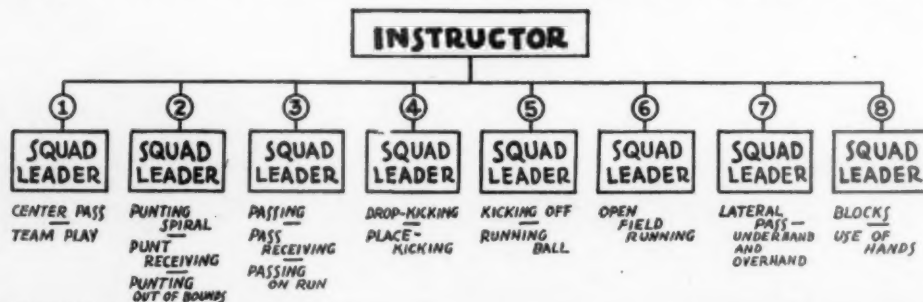


DIAGRAM 1.

LACELESS means BETTER PERFORMANCE

THERE'S just one way to estimate the real value of a basket ball or volley ball. That's by performance.

Judge a *laceless* ball by performance—by the number of extra scoring chances it turns into *scores*—and you'll say it's the best buy you ever made.

You see, eliminating the lace and opening has removed the frequent cause of off-balance with its resultant inaccuracies. It has resulted in a ball that is a perfect sphere without blemish—a ball that will turn in a star performance every time you put it into play.

Try the laceless ball and you'll quickly realize that it's one of the modern marvels of sport—a

marvel made possible by two things...the perfecting of an efficient, modern valve...and the great advancement in bladder construction, an advancement that makes the bladder almost as durable as the casing itself.

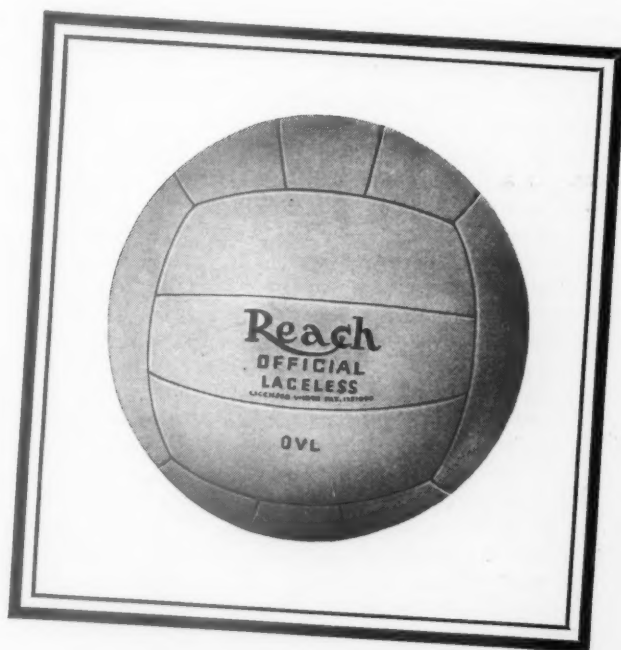
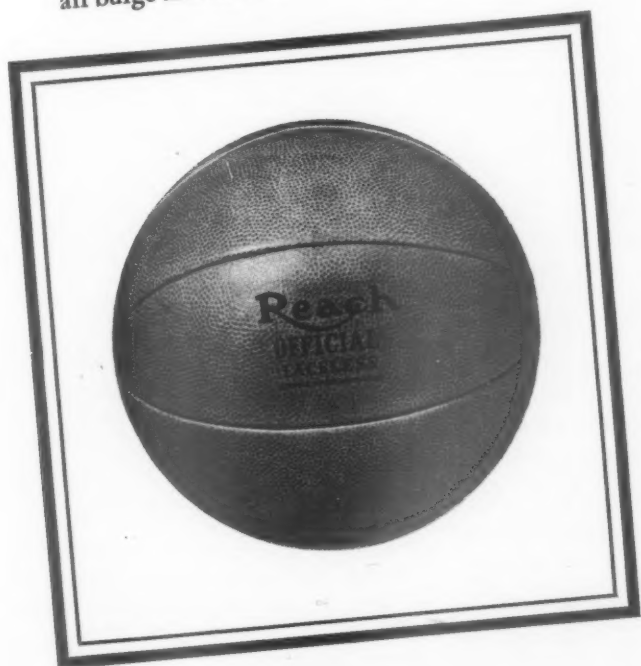
Two laceless aces

Discover the merits of the laceless feature in the Reach Official Laceless AAL Basket Ball...and in the Reach Official Laceless OVL Volley Ball... both licensed under Patent 1551099.

Let your Reach dealer familiarize you with the never-failing reliability of these two great laceless balls...let *experience* acquaint you with their perfect performance. Both are official in every respect.

Reach Official Laceless AAL Basket Ball—

Equipped with a rugged, one-piece, perfect-ball-shape bladder and an efficient, modern rubber valve. Its casing is prime pebble-grained Reach Tuf-ide leather specially tanned for basket ball service. Double-lined with a patented woven fabric that prevents all bulge and stretch.



Reach Official Laceless OVL Volley Ball—

Its 18-section cover is made of fine selected white calfskin, backed with a double lining. Equipped with a molded rubber valve bladder. And with the lace eliminated, skinned fingers and scuffed hands become a thing of the past.

A. J. REACH, WRIGHT & DITSON

Athletic



Equipment

overhand and underhand, the shovel pass, and other types of lateral passes.

10. His running game should be improved by his being taught six fundamental open field steps: front cross, back cross, shuffle, pivot, fade-away and change of pace.

11. His kicking game should be improved by his being taught correct form

for the spiral punt out of bounds, punt receiving, the kick-off, the place-kick and the drop-kick.

12. Team play, sound fundamentals, finesse on every assignment and right interpretation of rules should be stressed.

13. Training rules and regulations should be enlarged upon in order to develop the habit of getting the boy into

the best possible physical and mental condition.

With such a program, the junior high school boy should gain a working knowledge of the fundamental skills of football, and it is to be hoped that he will have gained a keen enough interest in the game of touch football to want to play it off the school grounds as well as on.

Scouting Methods for High School Football

By Floyd S. Stahl
Ohio State University

IN beginning a discussion of scouting methods, I fully realize that high school coaches do not have the assistant coaches or the money to undertake an extensive scouting program such as that used by our Western Conference teams. However, close proximity of opponents, night games and playing dates that do not conflict make it possible for the coach or an assistant to see a large number of the opponents in action.

Justifying Scouting

Several years of scouting in the Western Conference make me feel that scouting is almost indispensable in a good football program. If scouting needs justification, the following reasons should be sufficient. Youthful players always seem to feel much relieved when the scout returns to report that the "young giants" on the opposing team are just immature high school boys like themselves who have weaknesses which a properly directed offense or defense will find vulnerable. Most coaches feel that scouting has helped football to progress more rapidly because coaches whose teams are closely scouted must be more alert to correct their weaknesses if they are to maintain a winning record. Probably the most important contribution of sanctioned scouting is its power to allay suspicion of spying or the stealing of plays and signals by overzealous supporters of rival schools. The coach who has adopted scouting as a sanctioned procedure may easily turn aside information from a too enthusiastic supporter by telling him the opponent is to be well scouted before his team is to meet it. In most cases where schools have abandoned non-scouting agreements, they have done so because they felt it wiser to have a sensible scouting plan than to have alumni and other supporters doubting or distrusting one another.

In the Western Conference, each team is allowed one scout a game for a Conference opponent; the scout notifies the opposing team of his intention to scout, and he is treated as the guest of the opponent with a complimentary seat in the press box. A similar practice should be

a worthwhile gesture on the part of high school men, for it places scouting above the plane of spying on the opponent.

Pre-Game Information

A scout will simplify his actual scouting work a great deal if he will plan carefully for the information he desires before he goes to the game. This plan will, of course, depend to a large extent on what information his coach thinks is of most importance, and an outline or plan from the coach is very desirable. Some sort of plan covering every phase of the game will help the scout to get the maximum amount of information in one assignment. The scout who does not have such a plan often leaves the game with the opponents' plays, hastily drawn, and opponents' weights and numbers, only to find later that more important things were forgotten.

If your school has previous scouting forms on file, make use of information they contain but keep an open mind. The opponent may have changes other than in personnel during the current year. Also make use of any newspaper accounts or clippings available to familiarize yourself with the opponent's line-up and new substitutes. You need never go to an assignment completely "cold."

Secure player numbers, if possible, and memorize them before the game. Most veteran scouts know player numbers so well they seldom refer to a program during a game.

Arrive early at the game with plenty of pencils and paper, and a pair of field glasses* for use on close line play. Get

your seat as high as possible at the center of the field. Most scouts like to spend a part of their time observing the opponent from the end of the field. It is easier to get defensive spacing and exact position of backs and ends on offensive formations from this latter location.

Make a careful check of weather conditions, wind, heat and cold, which may affect the opponent's play.

Questionnaire

The following questions indicate the information that should be secured during the warm-up practice:

PUNTERS:

What is the number and position of each punter?

What is the average distance of his kicks?

How many steps does he take in kicking?

How much time does he take in getting kicks off?

What is the height of his kicks?

Does he place his kicks well?

CENTERS:

Are passes fast?

Are passes accurate?

RECEIVERS OF KICKS:

Are they sure in handling kicks?

What men are fast, dangerous open field runners?

Should we kick out of bounds?

PASSERS:

What is their number and position?

How accurate are their passes?

What distance can each passer throw?

Is the pass thrown while the man is running toward the flanks, or fading straight back?

RECEIVERS OF PASSES:

What is their position and number?

What is their speed down field?

What is their ability to catch passes?

What is the height of receivers?

PLACE KICKERS:

What is their position and number?

At what distance are they accurate?

*Our scouts use wide lens glasses of two diameters magnification, which have a wide field. These are fitted with head strap and sliding attachment to push up or down, allowing for use of glass or eye without removing headband.

What is their speed in getting the kick away?

KICK-OFF MEN:

What are the height, distance and placement of their kicks?

Offensive Information

Scouts hope for enough scoring to make the prospective opponent show both kick-off covering and receiving. When this team is kicking off, get the position of each man, check the fastest men down the field under the kick and watch for men who may suck over and be open for a crisscross return. An end or guard who is unusually fast may get down so quickly that he leaves a hole in the covering line. A blindly charging player may also be easily taken out of the play by cross-blocking.

When the prospective opponent is receiving the kick-off, get player positions; note especially the side on which the most dangerous ball-carrier lines up. Check the type of kick-off return the team tries—wedge or split of the opponent's line—and watch for a crisscross in the backfield. Also, check for opportunity to work a short kick on the center linemen.

When your opponent takes the offensive, check positions in the huddle and the preliminary line-up if the players employ a shift. The preliminary line-up in a shift often gives away the fact that the line will vary from a balanced to an unbalanced line, strong to right or left. Do not spend too much of your time trying to get this information and miss the formation and plays your opponent runs.

Diagram the formations used, and note the exact positions of the players in each one. Watch for variation of player positions on certain plays, which may give away the type of play to be used. At the end of the game, give an accurate summary of the chief strength or threat each formation has.

Do not try to bring back all the plays. It is much better to have the strongest plays from each formation, the type of blocking used and the plays you feel must be stopped. Try to evaluate the weak-side possibilities from each formation. It is easy to overshift on a team whose weak-side attack is poor. If a formation looks weak on passes, your secondary can move up to aid the line against its running attack.

Check carefully on the plays run on first down. Also watch for plays which seem to set up or precede a scoring play. What plays are called in scoring territory?

Passing and Punting Information

Try to anticipate possible pass plays. This will help you to concentrate on all the things you want to observe in this type of play. Perhaps the passer in deep position will help here if he is used alone to pass. If the quarterback generally calls for passes on long yardage downs, that will help you (and help your defense).

YOUR BOYS



DO YOU HANDICAP OR
HELP THEM?



These are the boys you have welded into a smart, fighting, never-say-die aggregation. You have taught all of them the fundamentals. You've coached them in the theory of the game, brought along the "quick thinkers" to positions of leadership and strategy. You've instilled in them that spirit that won't let them lie down no matter how the score or the breaks of the game are going against them. And you know that when a final plea is needed to lift their battered efforts, you have only to say "Remember I'm depending on you—I need you—go out there and fight for me."

And when they go out on the field, does the equipment *you've* supplied them handicap or help them? Does it slow them up, hamper them, decrease their ability and efficiency—or is it fine equipment, pliable, comfortable, lightweight—equipment that helps them bring out the very best they have?

When you want to specify the finest in footwear, remember that Kangaroo leather is 17% stronger than any other leather, is lightweight, soft, and pliable; has been the choice of the championship teams and the stars of football, track, baseball, hockey and field events for nearly half a century.

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TANNED IN
AMERICA

Weather: CLOUDY Pains: INTENSE

but now Absorbine Jr. helps
relieve aches and pains



EVERY cloudy day used to start up my muscular rheumatic aches and pain," writes C. D.* of Oakland, Cal. "But I discovered that by applying Absorbine Jr. once or twice at the first sign of mugginess in the air, much of my sharp pain is relieved."

Let Absorbine Jr. stand guard in your medicine cabinet as a quick relief for sprains and strains—muscular rheumatic aches and muscle soreness—as a quick destroyer of the fungus of Athlete's Foot. Many doctors, nurses, hospitals recommend it. You'll find it thrifty to use; a little goes so far. All druggists, \$1.25 a bottle. For free sample, write W. F. Young, Inc., 245 Lyman St., Springfield, Mass.

*Based on actual letter in our files

ABSORBINE JR.

Relieves sore muscles, bruises, muscular aches, sprains, Athlete's Foot, sleeplessness

Check the preliminary run of the passer. Determine whether it is straight back, or to either flank. Make a record of the linemen and backs who block for him.

Shift your glasses downfield and get the pass pattern of the eligible receivers. Watch them until you see which men of the defense they are trying to defeat. If you have the opportunity, also check to see what man on the defensive team is best able to rush the passer. This information may help your rushers materially. Check the quarterback's strategy carefully as to down and position on the field. Information gained on this point may be a great help to your defense. Use the newspaper play by play account to check back. Is the opponent's passer a "triple threat" back? If not, your defense will be easier. Is he committed to long or short passes, or does he use both?

Note the opponent's offensive punting carefully. A blocked punt may give you more yardage than your running attack, and a long return a touchdown. Find the weakest spot in the opponent's blocking for the punter and any weakness in the covering of the kick. Are kicks high and well placed? Is the kicker slow enough to be rushed effectively?

A scout may spend too much time looking for tip-offs or give-aways, but all teams have them. Coaches of college teams constantly are trying to overcome them. One Western Conference scout discovered a great plunging fullback who always put his hand on the ground when he was going to carry the ball, and that scout's team charged accordingly all afternoon to stop the fullback "cold." Another scout learned that a fine end assumed a different stance when blocking than he used when going down under a kick or for a pass. Acting on this information, the team of this scout held the opposing team to almost no yards gain when they met.

Defensive Information

It is very important that a scout bring back an accurate report of the team defenses used and the individual defensive ability of each player and substitute of the opponent. Most coaches want exact information on defensive weaknesses, not because they are offensive minded but because it is generally better psychology for players to be thinking of what they can do to the opponent than to be worrying about the things the opponent is sure to do against them.

Team defenses have progressed immeasurably in the last few years. Most teams use not only the standard 7-1-2-1, 6-2-2-1 and 6-3-2 defenses, but by over-shifting or variation in charge complicate the problem of diagnosis for the opponent. It is not unusual for a team, during the progress of a game, to present four or five variations from a standard defense. These may depend on down, yardage to be gained and position on the field—espe-

cially the position laterally. The scout should try to learn these variations as used by the defensive captain for various situations. However, it is of prime importance that the scout learn also where the defense charges at the snap of the ball.

One of our Western Conference teams playing against an opponent with a superior running attack used a 6-2-2-1 formation which at the snap of the ball became almost an 8-2-1, the two line-backers charging in and the ends and tackles making their charge wider to prevent sweep plays. This defense held the opponent scoreless for the first half. However, passes changed the situation later. Another Conference team, after giving up ten first downs in the first half of a game, in the second half used an overshifting defense, the line shifting with the defensive strength and the line-backers compensating by moving to the weak side. This overshift held the opponent to one first down, even though it was behind and trying hard to score.

No defense is so disconcerting to a team as an unorthodox defense which comes as a surprise. However, these defenses have weaknesses which a team with a well balanced attack can hit. It is the scout's duty to be able to recognize these defenses when they are used.

Outline of Defensive Information

The minimum amount of information the scout should secure concerning a normal defense should be as follows:

Exact spacing of all linemen on first down (each formation).

Positions of linemen and backs on long yardage downs; short yardage downs.

Variations when near either side line.

Defense used on 40-yard line.

Defense used inside own 10-yard line.

Punt receiving defense beyond own 50-yard line.

Punt rushing tactics, with down and position on field.

Whether there were frame-ups between center and guards through the middle of the line.

Whether there were frame-ups between right end and tackle.

Whether there was holding up of either end or double blocking against either to aid a long return.

Pass defense has become so complicated and so important that the scout will do well to try to anticipate the time opponents are going to pass against the team he is watching. Chart accurately the defense used on accepted passing downs and on downs not often called passing downs by some coaches. Watch the secondary defensive men carefully to see whether they are covering receivers man-to-man, zone or a combination of both. Note the center linemen who drop back to aid the secondary. Which linemen rush the passer? Who is the most effective rusher? Which rushers are slow and clumsy?

Which back is slowest? Do line-backers draw in on a fake plunge?

Information on Individuals

It is well to study each individual carefully both on offense and on defense. College players as well as high school players have faults which are never completely overcome by coaching. Physical qualifications such as speed, size and aggressiveness modify the style of each player. The scout has to check these qualities accurately and estimate strength and weaknesses. Common faults he is looking for are suggested in the following questions:

Which linemen are aggressive enough to be "mouse-trapped"?

Which linemen are overplaying; covering too much territory?

Which linemen play too high?

Is either end too aggressive?

Will either end chase plays to the opposite side?

Does either line-backer commit himself too quickly?

Does the weak-side halfback vacate his territory too quickly?

Is either halfback slow against passes?

Does either halfback allow the receiver to get behind him?

Does the ball-carrier look at the spot toward which his play is called? Do other backs point the play?

Does the passer give away intent to pass?

Do backs give away a sure punt?

Do the linemen who pull out point the play?

Is the elusive back or offensive star a poor blocker?

Use of Information

Practice time is so limited that a careful evaluation of important points should be made by coach and scout and a plan laid for use of scouting material. This material is only as valuable as the coach and scout make it to their squad the week before the game.

Most coaches do not care to have their teams scrimmage against the opponent's plays in mid-season, and scrub teams find it difficult to run the opponent's plays effectively. The general practice seems to be to use the scrubs to demonstrate the opponent's formations so that the proper defenses may be set up for them. Then plays may be run in dummy scrimmage against the varsity. All forward pass plays may be run at full speed, and may also be used by backs and ends against varsity backfield units.

Demonstrate the opponent's defenses, pick out the plays in your offense which should work best and emphasize those in your offensive preparation for the game. Dummy scrimmage is very valuable for these purposes.

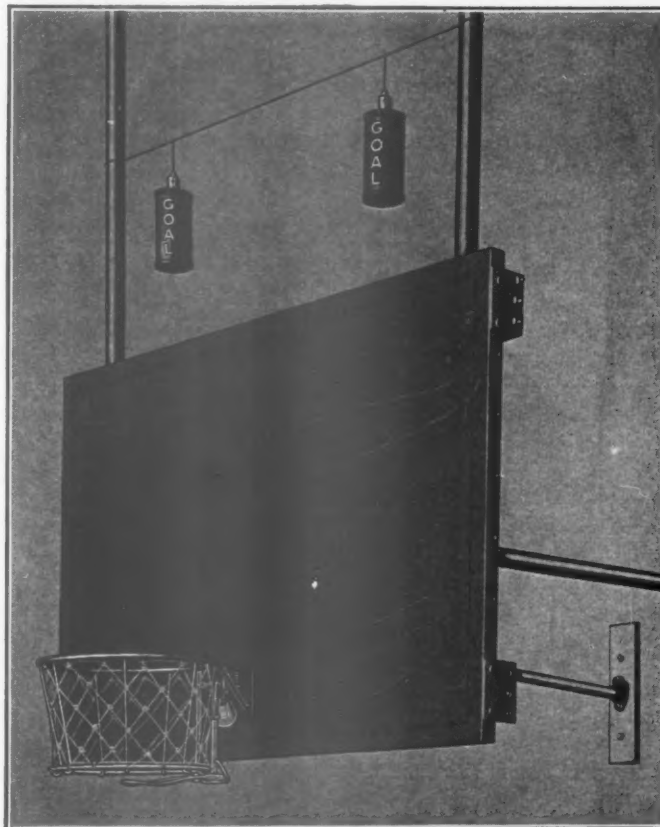
Suggestions to Aid Beginners

1. Concentrate on your assignment. Scouting is hard work.

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2. Don't write while a play is in progress.
3. Make note only of what you see. Don't guess.
4. Learn to anticipate the opponent's strategy along with the other team.

5. Don't be too confident, even though the opponent makes mistakes. Your players will likely underestimate the opponent's strength.
6. Have the courage of your convictions on the opponent's strengths and weaknesses in your recommendations to the coach.

7. Write up your report as soon as possible while details are fresh in mind.
8. Keep carbon copies of reports from year to year.

One Type of Figure 8 Offense

By Clifford Wells

Logansport, Indiana, High School

CONSIDERABLE success has been enjoyed by the Logansport, Indiana, High School basketball teams during the last few seasons with a type of figure 8 offense. In Indiana it is called the "Loganberry merry-go-round." In the beginning, this "merry-go-round" was used during the last minutes of a game to insure ball possession. However, opportunities arose for chances to screen and then get good shots, and it naturally became an offensive play.

To begin my explanation of this play,

A FEW years ago, Dr. H. C. Carlson of the University of Pittsburgh popularized a type of basketball offense which he termed the "figure 8." Other coaches adopted this offense entirely or in part, using it either as a basic or as a supplementary offense. One of the most successful of the present adaptations of the figure 8 is that known in Indiana basketball circles as the "Loganberry merry-go-round," taught by Clifford Wells, widely known basketball coach of Logansport, Indiana, High School. As Mr. Wells explains in this article, the figure 8 offense is generally used by his team in the last quarter of a game when it is in the lead. It may also be used as a drill to develop skillful ball handling and to build up endurance.

I believe it best to tell how our players move in order to get their different positions on the floor. In Diagram 1, player 3 passes to 4. Player 3 then cuts for the goal, and, if he is open, 4 passes to him. If 3 is not open, he goes to the corner of the court as shown by the arrow. Player 4 meets the pass from 3 so as to prevent an interception by the opponents. Player 5 moves from his position as shown by the arrow.

In our second move, shown in Diagram 2, player 4 has the ball, and he passes it to 2, who comes part way across the floor to meet the pass. Player 4 cuts for the goal. If open, he takes a return pass from player 2. If 4 is not open, he cuts to the corner, as player 1 moves out of the corner and up the side of the court.

In Diagram 3, player 2 passes to 5, who has moved up to the original starting position of player 4. Player 5 must move up the floor, as shown by the arrow, and then cut quickly out to meet the pass from 2. Player 2 cuts for the goal. If open, he receives a return pass from 5, but, if not open, 2 cuts to the corner of the court. Player 1 moves up the side of the court.

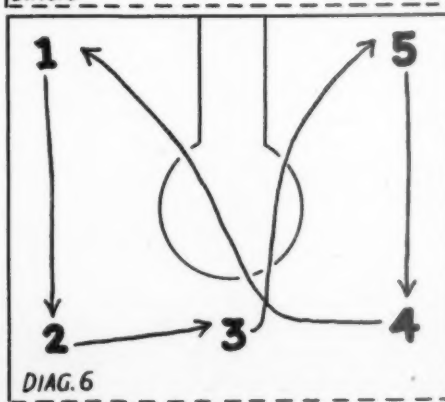
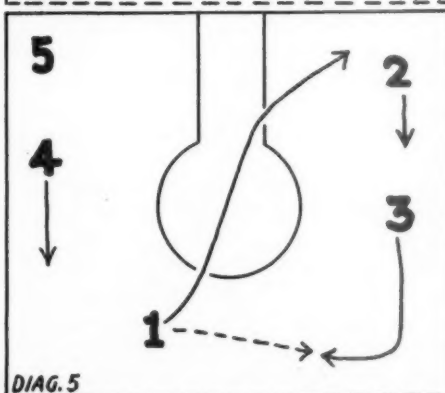
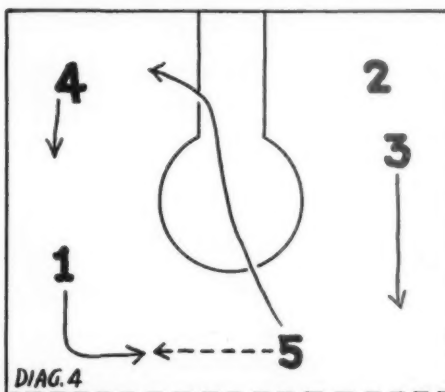
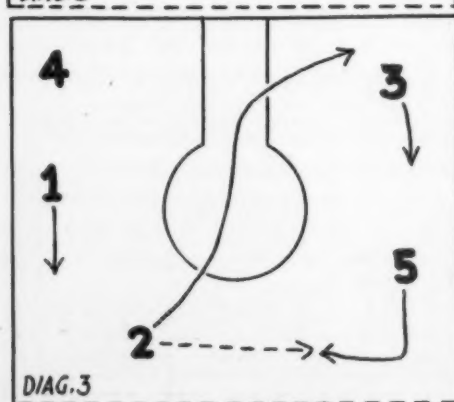
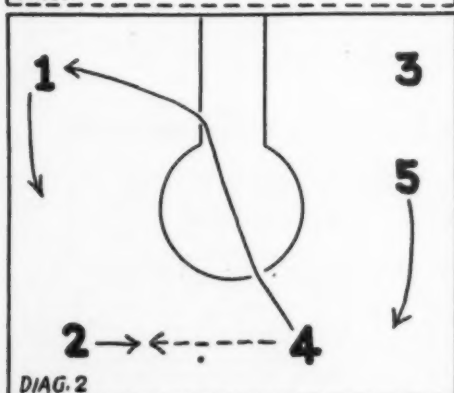
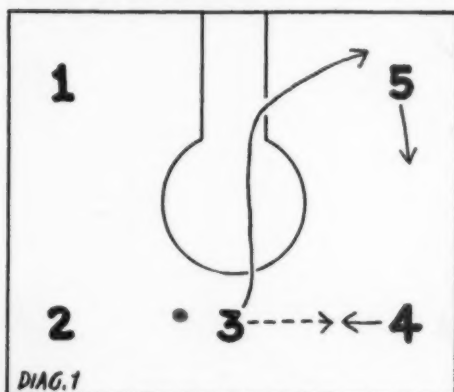
Diagram 4 continues the movement. Player 5 has possession of the ball and passes it to player 1. Then 5 cuts for the goal. Player 1 passes to 5, if the latter is open. Player 5 cuts to the corner if he does not receive the ball.

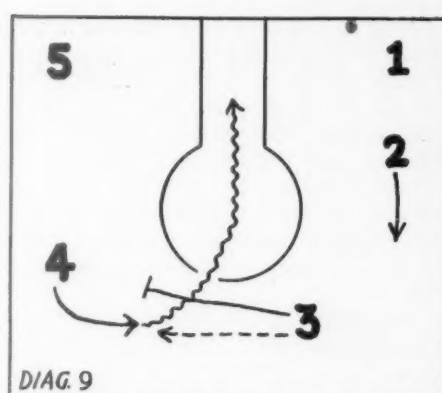
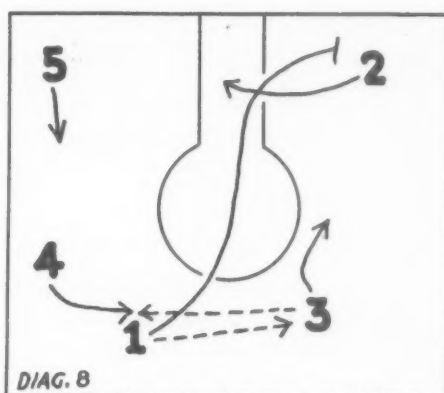
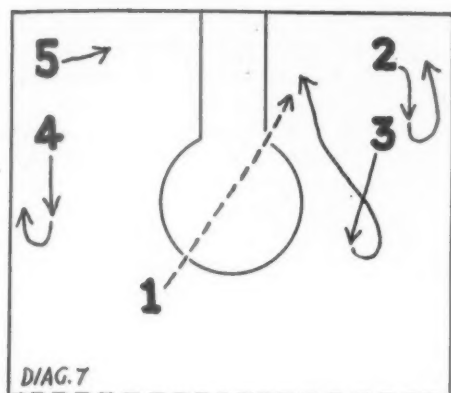
In the next move, shown in Diagram 5, player 1 passes to 3. Player 1 cuts for the

goal. If 1 is open, 3 passes right back. If not, 1 cuts to the corner of the court. Player 4 moves up the side of the floor and gets in position to cut out and meet the pass from 3.

Now I have taken all the players through the figure 8 movement, showing the position each player may take and when. This continuous movement forms the figure 8 play, as is shown in Diagram 6.

The play may be started in the other direction and reversed as far as the move-





ment of the players is concerned. A quick stop of all players in the movement with a quick break by the player about to receive the pass in a reverse movement will, many times, get that player open, as is shown in Diagram 7.

Following are some of the screen plays that may be worked out of the movement. Let us say that we have gone through one turn of the figure 8. On the second turn, a player may screen in one of the corners of the court, as shown in Diagram 8. Player 1 passes to 3, who passes quickly to 4. In the meantime, 1 screens for 2, who cuts for the goal, receiving a pass from 4. Player 3, instead of continuing in the figure 8 movement, feints as if he were to continue and then

draws his guard to one side of the court, as the arrow shows, in order to keep the middle open. This play may be used in either corner of the court, with the players going in either direction in their figure 8 movement.

Another play that may be worked out for a very good dribbler is shown in Diagram 9. After the ball has gone through one turn of the figure 8, player 3 passes to player 4, and, instead of cutting for the goal, as he usually does in the figure 8, player 3 screens the guard of player 4. Then player 4 dribbles around the screen and in toward the goal. Our idea is to get the opponents moving with our players and then have our players screen in an effort to free a man. In

the play shown in Diagram 9, sometimes the guard of 1 may play fairly loose and try to pick up 4 as he dribbles in toward the goal. If this should occur, 4 may pass to 1 for a corner shot or pass out in order to retain possession of the ball.

We generally use the "merry-go-round" during the last quarter of a game when we have a lead and wish to retain possession of the ball to protect our lead, or force our opponents to spread their defense in an effort to get the ball. When they try to force the play in this manner, we find our screens work out for us.

The "merry-go-round" may be used as a fundamental drill for ball handling and the building up of endurance and stamina as well as an offensive measure.

Justifying Football for the High School Boy

IS there a place for football in high school? What are the advantages and disadvantages of football for the high school boy?

These questions presuppose that there are both good and bad features in high school football, and to this supposition I heartily agree. To say that the game, as it is, is all good or all bad is to dodge fundamental issues.

We have heard so often that football develops the body, teaches sportsmanship, and so forth, that we have come to consider these as the exclusive arguments for the game. To me there is a deeper, more elusive meaning.

There is a sound reason for boys wanting to play the game. Surely there must be where so many thousands actively participate. To say that the boys love to play the game merely for its own sake is inaccurate, because in saying this we overlook some simple psychology.

Psychological Justification

Every person in order to have some share of happiness must have an outlet for a free expression of his personality. To

By Winsor R. B. Nielsen
Lawrence, New York, High School

AFTER graduating from Rutgers University, Winsor R. B. Nielsen coached the line at Metuchen, New Jersey, High School, in 1934, and the following year became Head Football Coach there. This year he is at Lawrence High School on Long Island.

put it more simply, he must have an outlet for his mental and physical energy. This comes through pursuing some activity that is of deep interest to the individual. The real interest develops when the person has received some recognition for his effort.

The adolescent boy very often chooses football or some other form of athletics as his outlet because it is simple, easy to learn and does not require a background of wide experience in life or learning as do music, the arts, reading and other such activities. Furthermore, deep family ties and an attachment to a vocation have yet

no meaning to him. Since so many adult methods of personality outlet are closed, there remain but few avenues left. One of these, however, is football, or athletics in general, for in this activity he can fulfill his desire for expression and at the same time obtain that all important item of social approval from his fellows.

We know there must be some escape of this desire to express the individual's self in some interesting way. Pity him who has no interest, for he is a cynic and veils his frustration in the cloak of indifference.

The Place of the Coach

Realizing, then, that youth must express itself, what better place is there than the high school where youngsters are under the supervision of trained teachers?

Of course, this desire for expression may be turned by the skilled teacher into constructive channels. However, here lie the pitfalls. At this point, much depends upon the coach. If he is wise, he will realize that a boy in his formative years presents a very delicate problem. The coach will realize that it is up to him to equip himself so well that when the boy presents

himself on the field the coach can in turn equip the boy to play the game properly.

How can the coach equip himself? First of all, the coach must be a gentleman; and he must insist that all concerned with the game act in a gentlemanly way.

Second, he must realize that boys are delicate human mechanisms that are likely to be forever ruined by clumsy manipulation. This means a knowledge of psychology.

Third, he must understand the bodily functions so that no boy is ever physically overtaxed or deprived of precise medical attention. Also, he must realize the physical limitations of each boy.

Fourth, but by no means least, the coach must know the game so well that he can teach a boy to use all his energy in the proper direction instead of wasting it, trying to carry out unsound tactics. The coach must break the game down into a few simple fundamentals; then he must be able to teach these fundamentals clearly so that the boy not only knows how but also why he does certain things.

Why do I say so much about the coach?

Chiefly for the simple reason that I believe the disadvantages of football result entirely from the administration. There is nothing wrong with the boys, but there is a great deal wrong with some coaching. After all, the boys reflect their guidance. How precious these boys really are! They are our future citizens; consequently their guidance should be meticulous.

Administrative Problems

Yes, football has disadvantages; but I believe that they are most often the fault of the administrators. Some boys get an exaggerated opinion of their importance. But cannot the wise coach limit the boy's activities? Cannot he limit the boy's supposed importance by careful curbing? Cannot he get co-operation from the newspapers so that they write no names in headlines? Teamwork in football is the essence of the game. How important it is in life! Alone we are weak. Only in company are we strong. But each man must do his job well.

Some boys receive injuries that, unfortunately, cannot be entirely eliminated in

such a vigorous activity as football, but correct coaching and proper equipment can certainly reduce the number of the more serious injuries.

Once a great general said that each generation should have a war so that youth does not lose its virility. I believe I should like my son to get his virility on the gridiron rather than on the battlefield. I believe I should much rather have him play football under a competent administration than have him standing on street corners smoking cigarettes and thinking of some way to while away long hours of inactivity.

Yes, there is a place for football in high school. What better way is there for a boy to express himself? Of course, the boy should not live only for athletics. He should be continually reminded that the main purpose of school is to prepare for a future that will be better because of school training. Properly conducted football can be a small but substantial part of that school training for many boys.

The only condition is that the administration—the superintendent, the principal and the coach—be competent.

Conditioning and Training

By G. G. Deaver, M.D.
New York University

IT has been my privilege this past summer to talk with groups of coaches on the conditioning and training of football teams. As a result of these conferences I have come to the conclusion that better teams might be developed with less hazard to the players if more consideration were given to certain fundamental rules of physiology, psychology and administration. It is my purpose to present some items for your consideration, not with the idea of having them accepted as absolute facts, but of having you consider them in the light of your experience.

The subject of this article is discussed a great deal in athletic circles. Do the terms *conditioning* and *training* mean the same? The dictionary defines *conditioning* as a state of being made ready for work; *training* as a state of being prepared in the performance of the work.

Football conditioning is a physiological and psychological process, whereby the muscles, heart and lungs are made ready to stand the activities of football, while the mind is conditioned to avoid "unnecessary risks," to report injuries and to take a verbal and physical beating, but to be a good sport.

Training seems to be the coach's job. He teaches the players the techniques of running, kicking and carrying the ball, and co-ordinates these factors for accomplishing the objectives of the game. There is no doubt that coaching and training are

FOR a number of years, Dr. G. G. Deaver has been writing authoritative articles on conditioning and training for this publication. Before joining the faculty of the Department of Physical Education and Health of New York University, he taught at George Williams College. In this article, he suggests a division of responsibility between the trainer and the coach as a preliminary step in helping to prevent football injuries.

two different duties requiring specialists to direct each phase of the work. When we talk about these specialists, however, we call the man who conditions players the trainer; technically, the trainer is the coach. This is a mere quibble about words, but it is important to remember that a good conditioner is as important to success as a good teacher of plays.

Early Season Injuries

The large colleges have specialists in both departments but there are more good coaches than good so-called trainers. In the small colleges and high schools, the individual called the coach tries to assume full control of both conditioning and training. As a rule these coaches go from one summer school to another learning the plays of the more successful coaches and then spend many unhappy autumn nights wondering why the plays learned in the

summer do not work in the fall. Perhaps this is an unjust criticism, but no play will function unless the team is in the proper physiological and psychological condition.

At several large football conferences, Dr. Floyd R. Eastwood of New York University has presented some of the outstanding results of his findings on football injuries. He has shown in graphic form that there is a great rise in football injuries during the first two weeks of practice. There are many potential stars lost for the season in these first casualties.

I have surveyed the existing literature for some article which endeavors to explain the reason for these injuries, but my search has been unsuccessful. What is the reason for this great casualty list during the first two weeks of the season? Most coaches state that the men are not in good condition and therefore get hurt more easily than they would otherwise. That answer does not give the complete story when studied from the standpoint of physiology. Will a player in good condition receive a *skin* injury less easily than one in poor condition? Is it true that the strong, hard *muscle* is less likely to be injured than the weak, soft one? Many coaches teach their men to relax when they fall to prevent injury. A relaxed muscle is a soft muscle. Can we condition those white bands of fibrous tissue called *ligaments*? Does a player in

good condition have fewer *bone* injuries than an unconditioned player? The great majority of our injuries occur in these tissues, and as yet we have no scientific evidence to justify the statement that conditioning of these tissues makes for fewer injuries.

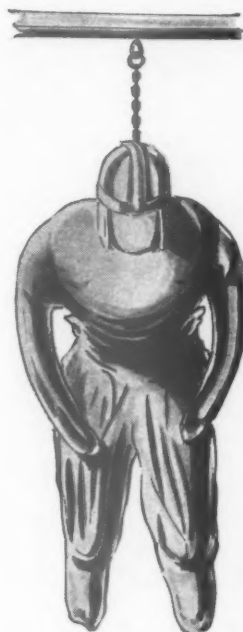
If conditioning is not the major cause of injuries during the first two weeks of practice, what are the causes? No one can definitely answer that question without conducting an intensive case study project, but the following factors should be considered.

Factors in Preventing Injuries

At the start of the season the squad consists of all types of individuals: the slow and the fast, the clumsy and the graceful, the daring player without reason and the one with reason, the varsity player of last year who is sure of his job and the new man fighting for a place. Each has an attitude and an emotional drive of a different type. A clumsy, slow man with a great emotional drive to make good will be "crucified" by an experienced, graceful, fast man. The new man is bumped, but, in his desire to show his intestinal fortitude, he does not have his injury treated. The injury adds to his inefficiency, and the next scrimmage may finish his football for the season. Often this slow individual by making a false, unexpected move may be the means of injuring a star performer.

In the early days of practice, scrimmage is a daily procedure, and the bumps and bruises do not have the opportunity of healing. Therefore a slight injury, which may pass unnoticed in two periods of scrimmage a week, may develop into a chronic condition during the weeks when scrimmage is held daily.

This is merely a statement of my opinion, but from personal experience as a football player, physical educator and team physician, I am convinced that more football injuries result from failure to recognize these factors than from failure to exercise any special tissues. How can we correct the existing conditions? In order to develop any team to its maximum efficiency, it is necessary to have an experienced person responsible for the general condition of the players and a coach to develop the skills of the players. These two specialists must work together for the good of the players. If a coach tries to assume both responsibilities, he will not attain the maximum success of which he is capable. Large institutions have their team physician, a trained man, to report on the condition of the players and to treat injuries, and a coaching staff which devotes its entire time to developing a conditioned team. Small colleges and high schools cannot afford to hire all this help, and it is to these institutions that the following procedures are suggested.



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Let us assume that the following items are essential for the development of a good team and the safety of the players:

1. A physical and medical examination before the season starts.
2. A man who knows his physiology of exercise and the care of athletic injuries.
3. A man who knows how to teach the fundamentals of football and develop players in offensive and defensive techniques.

The physical and medical examination is the duty of a sports physician. When the local physician is employed, it is well to have a trained physical educator to assume the responsibility of the physical examination and the physician to check his findings and complete the medical examination. There is a distinct difference

between a physical and a medical examination. Keep in mind this fact, that the examination is not a superficial examination of the heart and lungs to protect you should anything happen; the findings should help you in the selection of your team.

The individual who is responsible for the conditioning should be trained for this work. Most physical educators receive this training and should be available in every institution capable of supporting a team. He has studied the physiology of exercise and the first aid treatment of injuries. He is the man who reports to the coach before every practice the men suffering from injuries, how much work they should do on a given day and the gain or loss in weight. He is with them in the lock-

er room and sees and hears many things which should aid the coach. He is the man who stands on the side lines and watches the men as they play and notes the signs of fatigue, the slowness in getting up after a tackle, the limping gaits and the hanging arms. He should be the man who advises the coach when to remove men from the scrimmage.

The coach is the general who directs the players. He should be free to devote his entire time to the development of plays and their proper execution. He should not be responsible for the condition of the players and the treatment of injuries. He should know all the facts about each man, but his entire attention should be focused on the team as a whole and not on the individual.

Discrepancy Between Stop-Watch and Mechanical Timing*

By Glenn Cunningham
State University of Iowa

A DISCREPANCY between the results obtained by timers using stop-watches and mechanical timing devices has long been recognized. Studies of the problem have shown that the difference is due to the human equation in the starting and the stopping of the watch at the beginning and the end of the race.

An analysis of the neuro-physiological response of a human timer shows that time is required at the beginning of the race to start the watch after the gun is fired. Time is required also to stop the watch at the finish of the race. If the reaction time of the timer is the same at the beginning of the race as it is at the end, these reaction times would balance one another, and mechanical and stop-watch timing would be equal. However, it has been proved that this is not the case and that a real discrepancy exists between the reaction time of the timer at the beginning and at the end of a race.

Studies by Curetan, Coe and Fetter

A review of the literature dealing with mechanical and stop-watch timing reveals the fact that the times secured by these two methods differ materially. This indicates that the time lost by the stop-watch method at the beginning of a race

AS an athlete, Glenn Cunningham needs no introduction. While doing graduate work at the State University of Iowa, he made this study on stop-watch and mechanical timing under the supervision of Dr. W. W. Tuttle of the Department of Physiology, College of Medicine. The report of a previous study on stop-watch and mechanical timing, the work of Fred A. Graflund, was published in the September issue of this magazine.

is not balanced by that lost at the finish.

Curetan and Coe¹ investigated the error introduced by the stop-watch in timing races. A comparison of twenty-seven times on nine 50-yard dashes, thirty-five

times on fifteen 100-yard dashes, and three times on one 120-yard high hurdle race showed that there was a mean error of $-.302$ second with a range of $-.01$ second to -1.07 seconds. These investigators interpreted these differences as being large enough to cause grave concern.

Fetter² gave comparative figures for six races varying in length from 100 meters to 800 meters. The difference between mechanical and stop-watch timing varied from $-.03$ second in the 110-meter hurdle race to $-.13$ second in the 400-meter hurdle race.

Graflund's Study

Graflund³ compared stop-watch and mechanical times for five dash events.

Eighty 45-yard low hurdle races were studied. The data showed that in twenty-

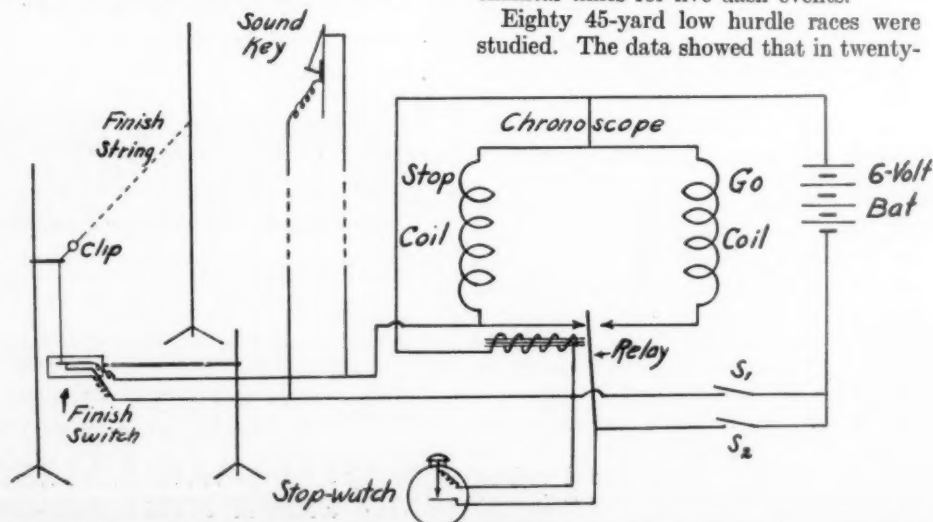


Illustration 1—This illustration shows the arrangement of the apparatus for measuring reaction time at the start of a race (flash of the gun) and the finish of a race (breasting the tape).

*From the Department of Physiology, College of Medicine, State University of Iowa.

¹Curetan, Thomas K., and Coe, David E. "An Analysis of Errors in Stop-Watch Timing." *Research Quarterly*, v. 4, 94-109, May, 1933.

²Fetter, C. H. "A New Way of Splitting Seconds." *Bell Telephone Quarterly*, October, 1932.

³Graflund, Fred. A. "Correlation Between Mechanical and Stop-Watch Timing." *The Athletic Journal*, September, 1936.

three races the stop-watch and mechanical times were the same, in forty-nine races the difference was .1 second, while in eight races the discrepancy was .2 second. It should be noticed that in all discrepancies the mechanical time was longer.

Sixty 50-yard dashes were included in the study. In seven cases the time secured by the two methods was the same, in forty cases there was a discrepancy of .1 second and in thirteen cases the difference was .2 second.

The data collected from sixty 50-yard low hurdle races showed that in eleven cases there was no difference by the two methods, while in forty-four races the difference was .1 second and in five races the discrepancy was .2 second.

The 60-yard dash was timed by the mechanical and stop-watch methods sixty times. The data showed that for twelve cases the results were the same, in thirty-two instances there was a difference of .1 second and in fifteen races there was a difference of .2 second.

Sixty races involving the 60-yard low hurdles were also investigated. Upon seventeen occasions the stop-watch and mechanical times were the same; in forty races there was a difference of .1 second between the two methods, in two races a difference of .2 second and in one race a difference of .3 second.

In summarizing his data, Graflund states that in 320 dash events the stop-watch and mechanical times were the same for seventy races. In 205 races there was a difference between the two methods of .1 second, in forty-three races the difference was .2 second and in one race the discrepancy was .3 second. On one occasion the stop-watch time was .1 second longer than the mechanical time.

Graflund found a high correlation (.9815 to .9948) between the stop-watch and mechanical times. However, the stop-watch times were consistently shorter (.092 second) than mechanical times.

It is evident from Graflund's investigation dealing with mechanical and stop-watch timing that a discrepancy of about .1 second exists between the two methods, the stop-watch times always being shorter.

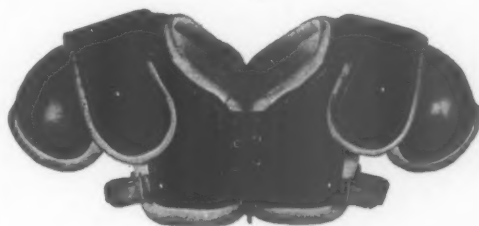
The Present Investigation

The stimulus for the present investigation was the paucity and inconsistency of the reports available. The purpose of this study is to investigate the discrepancy between times obtained by stop-watch and mechanical techniques, to collect and present data to show where the discrepancy exists and to explain why the discrepancy occurs.

THE TECHNIQUE. It was necessary to develop techniques for measuring (1) the time elapsing between the firing of the gun at the start of the race and the starting of the stop-watch by the timer and (2) the time elapsing between the instant the sprinter breasted the tape and the stop-

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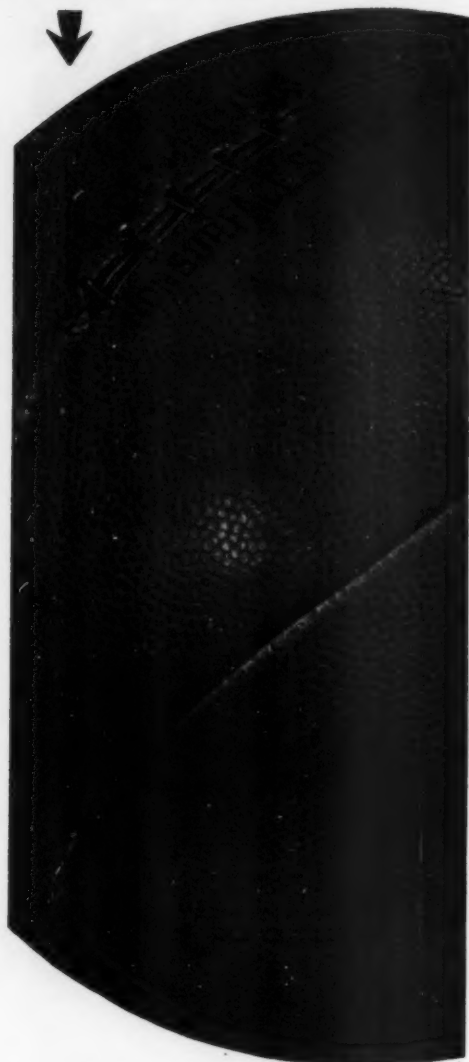
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ping of the watch by the timer. The first part of the experiment required no sprinters, but in the last part they were necessary.

A Dunlap chronoscope⁴ was employed as a means of measuring the reaction time of the timers to the firing of the gun and the breasting of the tape. The accuracy of this instrument has been checked many times by the gravity method. It was found to have a constant lag of 9 milliseconds. Since this error is constant and cancels out in the data, it is disregarded.

THE REACTION TIME TO THE FIRING OF THE GUN. A Dunlap sound key was placed in a series with two dry cells and the starting magnet of the chronoscope. Since the sound key maintains a closed circuit except during the instant the gun is fired, a relay was placed in the circuit as shown in Illustration 1.

In order that the timer might stop the chronoscope as soon as he saw the flash of the gun, he was provided with a regular stop-watch so arranged that when he pressed the stem in the usual manner a circuit containing two dry cells, in series with the stop-magnet on the chronoscope, was closed. This arrangement is also shown in Illustration 1. The ordinary stop-watch was employed for this purpose so as to make the experiment as real as possible.

The sound key was placed in close proximity to the starter, who took his position in the usual manner. The timer held the specially arranged watch in the usual fashion at the tape. The chronoscope was placed close to the finish.

When the gun was fired, the chronoscope was instantaneously started by the sound key, and, when the timer performed the act of starting his watch, the chronoscope stopped. By this method, the time elapsing between the firing of the gun and the starting of the timer's watch was recorded in milliseconds by the chronoscope.

THE REACTION TIME TO THE BREASTING OF THE TAPE. In order to record the time elapsing between the actual breasting of the tape and the stopping of the watch by the timer, the tape was connected to a closed switch which was opened as soon as the sprinter touched it. The opening of the switch started the chronoscope. The responsiveness of this arrangement was proved by the fact that the switch opened by the slightest touch of the tape.

When, in the judgment of the timer, the sprinter had breasted the tape, he stopped his watch in the usual manner. The pressing of the stem of the special watch stopped the chronoscope as before. The arrangement of the apparatus is also shown in Illustration 1. The reaction time of the timer at the finish was read in milliseconds directly from the dial of the chronoscope. In order to make the experiment as real as possible, three or four sprinters ran through the finish, the one

getting there first being timed as the winner.

THE TIMERS. In order to avoid inexperience in the use of the stop-watch in timing races, the timing group selected consisted of those men who time the running events, including Big Ten Meets, at the University of Iowa. They all had had rather wide experience and were considered as expert timers.

By means of the technique just described, data were collected and are presented below.

The Data

Since the experiment involved two distinct sets of data, viz., those dealing with the start of the race and those dealing with the finish of the race, they are presented under separate headings.

THE REACTION TIME AT THE START. In this part of the investigation, as well as in the second part, ten different timers were used. The reaction time at the start was measured one hundred times for each timer. The responses were recorded in groups of twenty on five different days. It is assumed that this approach gives a reliable cross-section of the reaction time of each timer. A summary of these data is shown in Table 1. The data show that the reaction time of the different timers at the start ranged from .1695 second to .2175 second.

THE REACTION TIME AT THE FINISH. The procedure in this part of the investigation was exactly the same as that for the start. A summary of these data is shown in Table 2. The reaction time of the timers at the finish ranged from .0242 second to .1356 second.

A COMPARISON OF THE REACTION TIMES AT THE START AND THE FINISH. A comparison of the reaction time of the timers at the start and finish is shown in Table 3. In every case there is a highly significant difference, the reaction time being the shorter at the finish. On the basis of mean differences, the reaction time is .1083 second shorter at the finish than at the start.

Discussion

One of the most important findings in this experiment is the fact that the difference between the reaction time at the start and at the finish (.1083 second) is practically the same as the difference (.092 second) between stop-watch and mechanical timing as found by Graffund. The data collected by other investigators relative to the discrepancy between mechanical and stop-watch timing are disregarded here since they are too meager.

A study of the mean reaction time at the start reveals the fact that they compare very well with what one would expect such reaction time to be, on the basis of reaction time experiments where sub-

⁴The Dunlap chronoscope is standard equipment for measuring short intervals of time and is therefore not described in detail.

jects are asked to respond to the flash of a light. On the other hand, the data presented relative to the reaction time at the finish (Table 2) reveal the fact that this time is far shorter than one obtains when reacting to any single stimulus. This suggests that the stimulus to which the timer is responding at the finish is not a simple one comparable to the flash of a gun at the start. At the finish, the stimulus pattern is not clearcut but becomes complicated by the approaching runner so that the finish is anticipated and the watch is stopped too soon.

Further evidence that the difficulty in stop-watch timing is defective reaction time at the tape is shown by the fact that one of the most experienced timers, subject 8, stopped his watch approximately one-third of the time before the sprinter actually reached the tape. His reaction time in these instances was zero, which, of course, cannot be. Furthermore, in the case of another experienced timer, subject 7, the watch was stopped almost one-half of the time before the runner reached the finish yarn. This same thing occurred in the case of others of the experienced timers. In fact, those with the greatest amount of experience, more often than the others, stopped their watch before the runner breasted the tape.

An analysis of the stimulus pattern situation at the start and at the finish seems adequate to explain why there is a discrepancy between stop-watch and mechanical timing. At the start, the stimulus (the flash of the gun) is clear and uncomplicated by other stimuli. At the finish, the stimulus pattern is not clear and is complicated by the anticipation by the timer of the arrival of the runner. This

TABLE 1

This summary table shows the mean reaction time of each timer at the start of a race.

Timer No.	Reaction Time in Seconds	Probable Error
1	.2005	.0171
2	.1808	.0123
3	.1813	.0142
4	.1950	.0161
5	.2175	.0167
6	.1779	.0096
7	.2102	.0098
8	.1695	.0141
9	.1847	.0092
10	.1962	.0212

TABLE 2

This summary table shows the mean reaction time of each timer at the finish of a race.

Timer No.	Reaction Time in Seconds	Probable Error
1	.0800	.0198
2	.0872	.0163
3	.0788	.0310
4	.0801	.0330
5	.1356	.0207
6	.1355	.0192
7	.0242	.0175
8	.0446	.0240
9	.0638	.0132
10	.1005	.0189

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seems true whether the timer tries to watch the approaching runner or whether he watches the tape and attempts to disregard the runner.

A study of the raw data makes it obvious why the mean reaction time of subjects 7 and 8 is extremely short. In the former case, the reaction time was zero nearly one-half the time because the watch was stopped before the sprinter touched the tape and in the latter it was zero nearly one-third of the time for the same reason. The tendency for all the reaction times at the finish represents a similar situation, although not so extreme.

The nature of the experiment required that the material dealing with the start and the finish be collected on separate races. However, enough data were collected so that it is felt that representative reaction times were secured for both parts of the race.

Summary and Conclusions

Data were collected to account for the discrepancy between stop-watch and mechanical timing. This was accomplished by obtaining the reaction time of each of ten experienced timers to the flash of a gun and to the breasting of the tape under

TABLE 3
This table shows the significance of the difference between the reaction time at the start and at the finish of a race.

Timer No.	M. 1	M. 2	P. E. 1	P. E. 2	Diff.	P. E. Diff.	Diff. P. E. Diff.	Significance
1	.2005	.0800	.0171	.0198	.1205	.0026	46.346	100
2	.1808	.0872	.0123	.0163	.0936	.0020	46.800	100
3	.1813	.0788	.0142	.0310	.1025	.0034	30.147	100
4	.1950	.0801	.0161	.0330	.1149	.0037	31.054	100
5	.2175	.1356	.0167	.0207	.0819	.0027	30.330	100
6	.1779	.1355	.0096	.0192	.0424	.0021	20.190	100
7	.2102	.0242	.0098	.0175	.1860	.0020	93.000	100
8	.1695	.0446	.0141	.0240	.1249	.0027	46.259	100
9	.1847	.0638	.0092	.0132	.1209	.0016	75.563	100
10	.1962	.1005	.0212	.0189	.0957	.0028	34.179	100

conditions approximating as nearly as possible those of a regular race.

The data show the following:

1. The reaction time of ten timers to the flash of the gun ranged from .1695 second to .2175 second.

2. Their reaction time to the breasting of the tape ranged from .0242 second to .1356 second.

3. The mean difference between these reaction times was .1083 second.

4. The mean difference between the reaction time to the flash of the gun and that to the breasting of the tape (.1083

second) is practically the same as the discrepancy between mechanical and stop-watch times.

5. Since the reaction times to the flash of the pistol are within the limits of what one would expect to find reaction time to be to a light stimulus, and since the reaction times to the breasting of the tape are far shorter than one would expect to find to any single stimulus, it is concluded that the discrepancy between mechanical and stop-watch time is due to the lack of clarity of the stimulus at the finish to which the timers must respond.

The Physics of Football

By Ralph B. Waterman
Pontiac, Michigan, High School

IF a coach wants to study the technical side of athletics, a football game will give him an excellent opportunity if he will observe closely and do some thinking.

"Today is Friday. Our practice today will consist of a demonstration in physics. Football will be our lesson, and the field will be our laboratory."

Was this assignment ever heard in your school? It should have been, assuming that good old alma mater has a football squad, which is very likely.

Science on the Football Field

There is a great deal of science to be taught on the football field. Let's take a glimpse at some of the principles of physics that get out and play in every game or scrimmage, whether it is on the vacant lot next door or on gridirons with the varsity. If you will do this the next time you see a game—as coach, player or spectator—you can solve some of the problems that turn up.

Since prehistoric times men have thrown things at each other. The ancient philosophers had a strange idea that when anything was thrown it went in a straight line for a distance, quickly rounded a corner and came down in a straight line. It was not until the sixteenth century that Tartaglia, a Venetian, discovered that the path of something thrown curved through

its entire distance; Galileo, the Great Mind of Italy, discussed the fact that the missile came down more steeply than it arose; and Newton, the Great Philosopher of England, gave the explanation for the curve—the continuous downward pull of gravity upon the moving body. Physicists call this path the "trajectory," or the curve described by a body moving through space, as the path of a bullet discharged from a gun, and have applied pages of mathematics to the observation of Tartaglia, that "the faster the throwing the flatter the path."

Watch trajectories upon the football field, therefore, as the ball sails through the air—by punt or pass. Notice the height of the curve in proportion to the speed, the steeper angle of descent, the effect of favorable or unfavorable wind.

Rotation

As soon as round cannon balls began to be replaced by pointed cylinders in the artillery of the world, it was observed that the longer projectiles did not follow their true aim. About the time of the War between the States, the scheme of rifling the guns was tried out. Grooves in the bore produced a rotation of the bullet that made it go straight in the air. Consequently, we have the spiral in the forward pass.

The cannons of the football squad

can hardly make the pigskin whirl as rapidly as a bullet, but they do their best. The rotation must be around the longer axis of the football; not end-over-end. The well thrown ball is boring its way through the air, after a fashion, and its trajectory is fairly accurate.

The benefits of this rotation are due to a gyroscopic force of whirling. The gyroscope is a whirling weight that holds true to its initial direction. Who upon the football squad can give the best whirl and the truest pass to the football?

Other Problems

I think that these two rules are enough to learn in one laboratory period upon the football field. We will give suggestions for other lessons, however. Find out the laws that apply to inertia and momentum, and then, at the game, observe what happens when a body that does not want to stop collides with one that does not want to move. Learn the law of action and reaction and prove it in the pulling and pushing that seems to be so much fun out on the football field. Find what elasticity is, and observe its benefits in the smashes, particularly in the play through tackle or guard in a line buck on third down with about three yards to go.

The subject of friction coefficients may seem dull in the books, but it makes a lot

of difference in the footing on muddy grounds. And, if you do not already know why the runner leans so much in the dash around the end, read the pages about centrifugal (and its partner, centripetal) force, and see whether the full-back does not put on a splendid demonstration.

Texas High School Coaching School

By *Standard Lambert*
Austin, Texas, High School

THE Fourth Annual Coaching School of the Texas High School Football Coaches Association, held in Fort Worth, August 3 to 8, was the most successful of the schools sponsored by the Association. Secretary L. C. Wood reported 278 coaches in attendance and over 180 signed up for membership in the Association for 1936-37.

Attendance records at the school since it was inaugurated in 1933 show rapid increases. The first school, with D. X. Bible in charge, brought 66 students. In 1934, Dr. C. W. Spears and Jack Meagher attracted 102, and the following year the total swelled to 176. E. E. Wieman, Ted Cox and Ed Walker comprised the teaching corps the third year.

The Association held its annual business meeting the fourth night of the school. Ben Winkleman, former coach of Paschal High, Fort Worth, who has moved to California this year to aid C. E. Thornhill with the Stanford Indians, showed moving pictures of the Southern Methodist-Stanford and Stanford-California games.

John A. Pierce, Corsicana, chairman of the nominating committee, announced the following nominations for 1936-37: President, Blair Cherry, Amarillo; Vice President, L. C. Wood, Cameron; Secretary-Treasurer, W. B. Chapman, Lubbock; Assistant Secretary-Treasurer, Bryan Schley, Teague; Board of Directors, the above officers and H. N. Russell, Fort Worth; Dennis Vinzant, Greenville; J. T. Nelson, Athens; Herman Cowley, Dallas; George Vest, Donna; J. B. Hinton, Eagle Lake.

The committee suggested that the President appoint a publicity director, who would be a member of the Board and handle the Association news. President Cherry accepted the suggestion and appointed Standard Lambert, Austin.

Much credit is due President H. N. Russell and Secretary L. C. Wood for the great work they did in directing the 1936 school. The unanimous opinion of the group attending was that it was the Association's greatest. In view of the fine schools of the past, this is a great compliment. Both have worked tirelessly on what, for the most part, is a thankless task. Those who realize the magnitude of the task appreciate a good job well done.

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Pittsburgh's Football Clinic

BACK in the spring of 1932, Dr. John B. Sutherland held the University of Pittsburgh's first football clinic. So popular was this that over a thousand coaches and players attended the second clinic. Even though a limit was then placed on the number of coaches and players representing each school the attendance has increased yearly, indicating that the geographical area reached by the clinic has been extended.

During the first two years, only a morning session was held, but so intense was the interest that subsequent clinics have continued throughout an entire day. Instructors in recent years have consisted of outstanding coaches from other colleges as well as those on the Pittsburgh coaching staff.

At these clinics so much valuable information is presented that some of it is published here.

Guard Play

Following are some of the fundamentals of guard play as presented at the clinic by Walter Milligan, who coaches Pittsburgh's guards.

"Guard play is becoming increasingly difficult. At one time guards were massive and did most of their blocking in the line. Their defensive efforts were limited to piling up the offensive line thrusts or charging straight into the backfield. Today the guard need not be huge, but he must be physically normal. Too much weight is a handicap, but lack of the same is likely to be, also, although the lighter guard can overcome weight disadvantage by being in good physical condition, keeping mentally alert and developing speed and a quick charge.

"The offensive duties of the guard are varied. He blocks on and behind the line, and downfield ahead of ball-carriers. For these duties the guard must possess agility. He must be rugged and aggressive. Speed is necessary. It enables him to make contact quickly with the would-be tackler so that the latter cannot worm away from him by use of the hands. It enables him to keep ahead of the ball-carrier when going down field. Speed downfield without a quick start often is wasted; so a guard must work hard to develop this ability.

"The defensive duties of a guard are to protect the territory between the other guard and the tackle, when using a six-man line, and the territory between center and tackle, when using a seven-man line. He piles up plays on the line of scrimmage, tackles in the backfield and covers a man or a zone against forward passes. He cannot limit his play to his own section, but must be ready to protect against end runs, reverses, sweeps followed by laterals, cut backs and delayed bucks.

"To play this type of game the guard must be clever and must study the game. He should know not only guard play, but should have a fair knowledge of all positions. During the game, a guard has to cope with many men, and, unless he knows their style of play, he will be unable to carry out his assignments creditably. He must be a keen diagnostician and he must be aggressive and agile. He needs the technique of a halfback's hip movement when he is forcing his entry through the offensive line. Feinting and side-stepping are sources of worry to offensive blockers, and awkward guards cannot use these skills.

Mental Alertness

"Mechanical versatility is not much of an asset, if not supplemented by mental alertness. The good football player makes mental notes of all situations that might come up in a game. The offensive guard should be ready, when asked, to give the quarterback information vital to his team's attack. The defensive guard cooperates with his mates and tells them how he is going to play on certain occasions. This applies particularly when any freak formations are used by the opposition. If the guard is able to study the strategy of the opposing quarterback, it will simplify his play and enable him to conserve his energy. He should learn by the end of the first period the style of play the opposition is using. Every signal-caller has idiosyncrasies in selecting and calling plays. One likes to throw a lot of passes, another likes to run sweeps, while another adjusts his play to the arrangements of the defensive line and the secondary defense. There are innumerable little things that go on in a football game that are valuable aids to the boy who is alert and awake. Although football is a co-operative game, there is an opportunity for any boy to stand out as an individual performer.

"The efficient guard is a keen observer. When on the defense he will watch the behavior of the offensive linemen. They often indicate the play—some drop their heads when getting ready to pull out and some elevate them when ready to charge across the line of scrimmage. Sometimes the offensive man fastens his gaze on the man he is to block. A staring, glaring opponent who has most of his weight resting on the hand that is down is almost certain to charge ahead, although he also may be feinting and using these tactics to fake a charge.

"Offensive backfield men in line to receive a pass from center should be watched, and attention should be paid to the other backs for indications of reverses and passes. The average defensive guard

who is inexperienced spends too much time in watching the offensive linemen, thus taking his eye off the ball and the backs.

Overcoming Awkwardness

"There is no guard position open for an awkward boy. The guard has to be shifty to change his course of running. When running interference he has to swing inside and outside of defensive men who have been piled up by blockers. He has to be ready at any time to change his course to meet the movements of the defense. Often the guard goes out with a special block in mind, but when making contact must change his plans to keep his opponent from out-maneuvering him. Frequently he has to jump over the bodies of players sprawled on the ground. Body balance and the ability to move quickly are necessary to develop shiftiness. That is one of the reasons the guard runs with short steps.

"Handball and squash are good winter games to develop shiftiness, and tennis is best in the summer."

Center Play

Ralph Daugherty, who coaches Pittsburgh's centers, has presented at the clinic the following material on offensive play of the center.

"The primary step in teaching a man center play is to have him learn the proper offensive position, and to facilitate this it is well for him to know the purpose of the pose he assumes.

"Since the center passes the ball and charges or blocks, it is expedient that his position permit him to do these things with the greatest efficiency. It is obvious that the wider apart the center places his feet the more space is afforded him through which to pass the ball. But when the feet are too wide apart the player is more or less planted to the spot, and after passing the ball it is impossible for him to charge with any amount of force. Consequently, it is necessary for him to take as wide a spread as his ability to charge forcibly will permit. This distance varies with each individual, depending upon leg length and other physical characteristics.

"After this distance has been determined, special attention should be paid to the position of the feet themselves. They should point straight ahead, and never out at an angle, as is sometimes the case. This is essential for good charging and blocking. Unless a player has his weight in front of his feet, it is difficult for him to make a good charge with his feet even; and, since the center should place very little weight on the ball, he must have one foot slightly behind the other. It is well to observe the rule that the toe of the back foot should be even with the heel of the forward foot:

To be sure of this, the beginner should draw a straight line on the ground, placing one foot in front and the other behind it.

Center Stance

"When the feet are in the proper position, the player is ready to bend over the ball. It is better for the novice to hold the ball in his hands before getting down rather than to lay the ball on the ground and then assume his position over it. The former method enables him better to place the ball at the proper distance in front of him.

"In getting down he should bend his knees and crouch slightly so that his position has flexibility and resiliency. The knees should not be permitted to approach each other but should be held wide apart. This keeps the legs and feet in better alignment for charging and also permits more freedom for the arms in passing. If the position thus far is correct, crouching and placing the ball down should automatically bring the heel of the back foot up off the ground so that the player rests on the toe of that foot. (This is important.) The forward foot is more or less firmly planted with perhaps a little more weight on the toe than on the heel. The ball should be extended a comfortable arm's length in front of the player and should be directly in front of his face. The beginner usually places the ball a little to one side or the other. This tendency should be curbed immediately as it tends toward uneven balance and inaccuracy.

"With the ball on the ground, special attention should be paid to the amount of weight the center places on the ball. A valuable guide at this point is for him to lift the ball off the ground without shifting his weight. If his position is proper and his weight distributed correctly, he will gradually totter forward. Too much pressure on the ball causes high, inaccurate passes, and it is essential to have the proper and same weight on the ball for every pass. The position as a whole should be sturdy yet flexible, with back straight and as nearly parallel to the ground as is possible. Having obtained an efficient position, the next consideration is the pass.

Passing

"The execution of the pass depends upon whether the ball is passed back end over end or in a spiral, for each type of pass requires different positions of the hands on the ball and different motions. To execute the end-over-end pass the ball should be placed with the lacing up. The hands are placed one on either side of the ball with the thumbs touching and directly opposite each other between the third and fourth laces, counting from the passer. The palms are pressed gently against the ball and the tips of the index fingers are placed on the lateral seams. With the rest of the fingers spread out comfortably, the ball is grasped firmly.

"When the center makes the pass the

first motion is to lift the ball toward the face, cock the wrist so that the front tip of the ball is elevated and carry it back between the legs all in the same motion. The ball is lifted so that the front end will not strike the ground when it is flipped between the legs, and the wrists are cocked to afford greater wrist movement. When the ball is directly between the legs, it is released and at the same time flipped with a sharp wrist movement. Care must be taken to hold the elbows comfortably close together so that they will not strike against the thighs.

"As the ball is released the hands are allowed to pass on through between the legs in a typical follow-through. This is very important as it is necessary for speed and accuracy. The entire movement of the arms and wrists is smooth and rhythmic, and to execute the movement well tenseness should be avoided. The pass is not made entirely with the arms and wrists, for since the center's position is flexible the entire body co-ordinates in a rhythm of motion.

"When the center makes a spiral pass, the ball is placed on the ground and rotated toward the right until the lacing is almost directly underneath. The center's right hand is now placed on the front half of the ball with the thumb on top and the rest of the fingers distributed evenly along the lacing. The left hand covers the rear left side of the ball, slightly to the rear, and acts only to support and steer it. The impetus is given to the ball mostly with the right hand, and, unlike the motion in the end-over-end pass, the ball may be shot back from its position without palpably lifting it. The spin is given to the ball with the right hand. Tenseness in the arms and wrists must be avoided here, as the ball is released with a snap that rigidity would hinder. The follow-through and body co-ordination are the same as with the end-over-end pass.

What Is a Good Pass?

"Just as unerring control is the prime essential for a good pitcher, so is unswerving accuracy in passing the paramount essential for a good center. No matter how competent a man might be on defense, if he is not an accurate passer on offense, the former quality will not compensate. The smoothness and speed of the backfield, and consequently the rhythm of the rest of the team, is dependent on a good pass. And the question arises: What is a good pass? What are its requirements? A good pass is a pass which has the proper speed, lead and height so that the back may receive the ball with the least possible effort. In other words, a good pass permits the ball-carrier to perform his duty on the play with practically as much freedom as though he were not obligated to receive the ball. It is obvious that the variation in size, speed and preferences of different backs will require slight variations in the

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same pass to different individuals. One halfback may start a trifle faster than another and consequently will require more lead on an end run or off-tackle play. One fullback may be taller than another and hence will require a slightly higher pass. All backfield men have preferences on all plays, and it is the center's duty and obligation to get the ball to the right place at the right time.

"The center should quickly learn the different speeds at which the ball must be passed on different plays. On a punt, the sooner the ball gets to the kicker the more time he has in which to get off a good kick. Therefore the ball should be passed back with the greatest possible speed, and the center should never disclose to the defense, by shifting more weight to the ball before he passes, that the ball is going to the back man. Off-tackle plays and end runs require a lobbed pass with sufficient lead, and it is the center's responsibility to see that no back is slowed up as the result of a badly led ball. Forward pass plays on which the passer fades back on the snap of the ball require a swifter pass direct to the back. Line bucks, on the other hand, demand the ball to be lobbed up to the fullback so that it is practically hanging in the air as he gathers it in. The right height is very important on such a pass so that the ball-carrier neither has to straighten up nor reach down to receive the ball, but can hit the line in his natural stride.

"It is important on wet days, when the ball is slippery and the backs are starting more slowly, to shorten the lead so that the back does not have to reach for the ball. Wet, slippery balls are difficult to catch in the hands away from the body. The center should realize how imperative it is that his passes be accurate, and he should strive above all to gain the confidence of his entire team as well as the backfield men by making an accurate pass on every play.

Passing and Charging

"Not until he becomes fairly proficient in passing and has confidence in his ability should the center attempt to pass and charge at the same time. The co-ordination of these two duties should be undertaken gradually, and it should always be remembered that unless the pass is good the charge is usually unnecessary. With this thought foremost in his mind, the center has at his disposal a very simple and efficient method for gaining the desired co-ordination. By getting someone to stand behind him to receive the ball, he passes and charges up and down the field. If there is a bucking machine available, he should work with the rest of the linemen, passing the ball before every charge. He should strive for a hard driving charge for, even though the center is considered only a fair charger at best because of the necessity of passing the ball, on plays through

his position he may be solely responsible for charging out his opponent.

"In actual scrimmage, the charge should be made for the spot where the opponent last was before the center looked back between his legs. Passing the ball and then locating the defensive man before charging entirely nullifies the effectiveness of the charge. The center should depend upon his guards to keep the defensive man from drifting to either side. He should consider the guards as special co-workers, realizing that with them he is responsible for the center of the line. He should co-operate with them and plan how best to meet the emergencies which the different plays present.

"One of the most difficult and discouraging assignments the center has is blocking the hole left by a guard who pulls out to run interference. It is advisable whenever possible to have another lineman assist the center in blocking the hole; but on some plays this is impossible, and the center must be entirely responsible. Perhaps the primary essential for center blocking is for the center to orient himself as quickly as possible after passing the ball. By this I mean to get his head up and learn what his opponent is doing. The second requirement is for him to get into the hole he is to block with the greatest possible speed, keeping his head toward his opponent, and his body between the defensive man and the ball-carrier. The best way to do this is to hop sidewise and land on all fours with the feet braced and the head up. It is advantageous to have the hands on the ground to add sturdiness to the position, and if the defensive player eludes the center the hands act as a pivot so that the body may be shot backwards and the feet swung around. Many times an opponent who slips past the blocking center is efficiently kept out of the play by this maneuver. But if the center can prevent the defensive player from slipping past him, it is essential that he keep his body as high off the ground as possible and that he stay on his feet. The advantage of this is twofold. If the defensive player drifts along the line instead of coming in, the center must charge out after him and shield him from the play. The second and more important advantage is that after blocking it is the center's duty to go down the field ahead of the ball-carrier and cut down the secondary. It is obvious that if the center is to do this he must, first, stay on his feet; and, second, block only long enough to permit the ball-carrier to reach the line of scrimmage. Each play requires a different length of time in blocking, and the center should learn these as quickly as possible.

"In going down to block out the secondary, the center usually has a certain man assigned to him. He must first locate this man before he passes the ball; and, after the ball is passed, he must guide his course down the field so as to meet the

defensive player in front of the ball-carrier. In blocking out in front of a ball-carrier it is advisable for the center to stay

on his feet and shield the runner from the tackler, although at times a smashing body block that sweeps the would-be tackler off

his feet is altogether desirable and advantageous to the offensive play of the team."

The Single Wing-Back Formation for High School Teams

By Dana C. McLendon
Griffin, Georgia, High School

THE single wing-back formation has several advantages. It is very good for off-tackle plays, since an end, a wing-back and two backfield men are in position to make quick contact with the defensive tackle and end. Also it is good for plays inside tackle.

It is a good bucking formation, with the fullback driving behind the two tackles.

In the single wing-back formation, the strong-side guard is in a good position to run interference, since he is an equal distance from either end. The wing-back is in a good position to box the tackle or to be used as a flanker on the end. Any one of three backs may handle the ball and give three cycles of plays. Ends may be maneuvered to take advantage of a tight line or split line. Backs may be arranged to give strong, deceptive weak-side attack.

Linemen in the single wing-back formation usually have a better blocking angle against over-shifted linemen than they would have in a balanced line.

The single wing-back formation allows for four quick receivers for passes. It is also a good quick-kicking formation.

After signals are called in the huddle, our men take the positions indicated in Diagram 1.

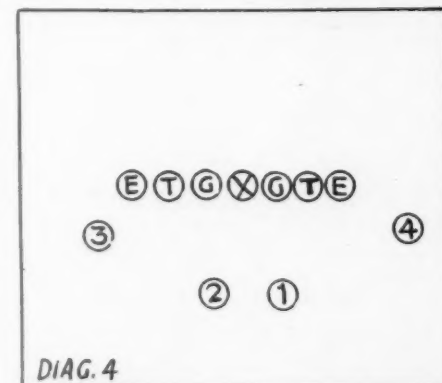
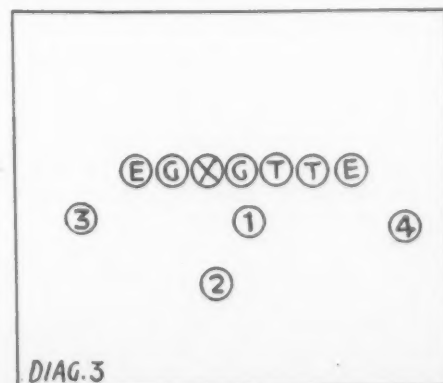
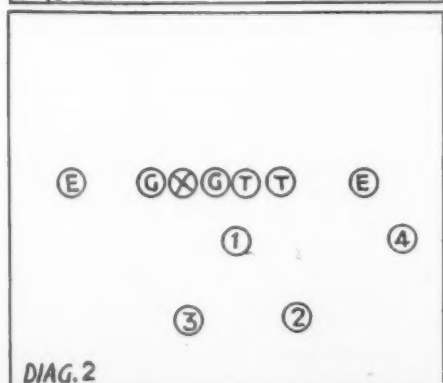
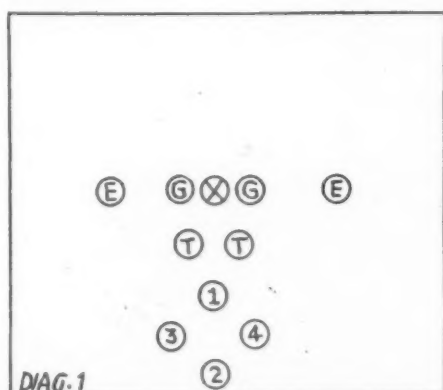
WHILE Dana C. McLendon was at Beaufort, South Carolina, High School, football teams under his direction lost but five games in six years out of a total of fifty-nine games played. Last season, Beaufort won the Class B state championship, scoring 274 points to its opponents' 7 in a ten game schedule. This marked the second undefeated and untied season for the Beaufort team. McLendon, who is a graduate of Presbyterian College, is coaching at Griffin, Georgia, High School this season.

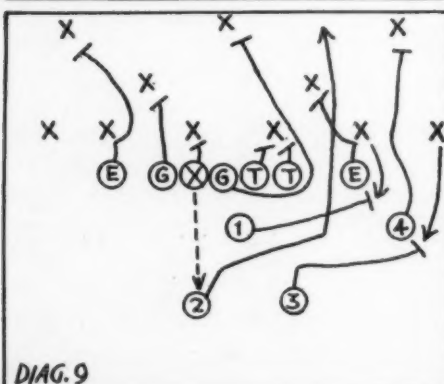
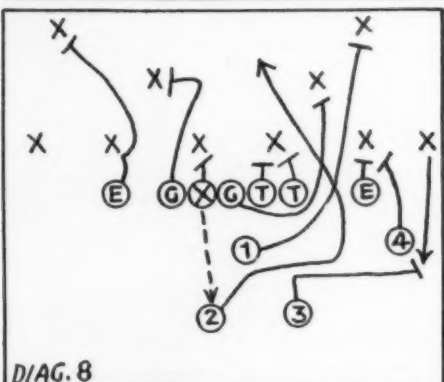
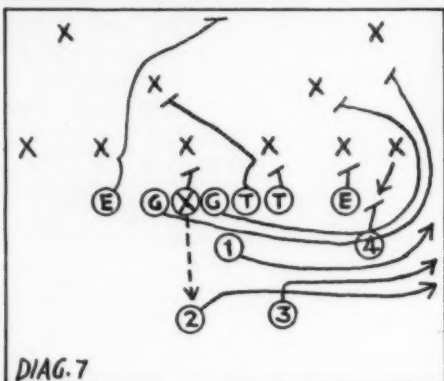
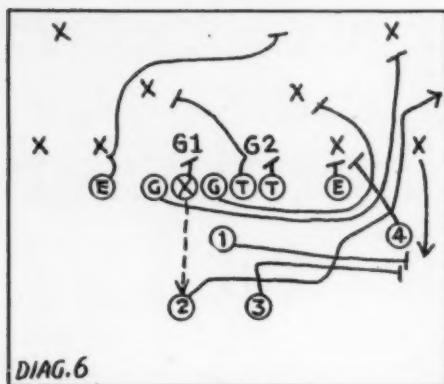
They may shift into the single wing-back, right or left, by the following routine. Every man comes into a charging position on a count of "One! Two!" Going into the right formation, the tackles cross-step with the left foot on the count of "One," and get down into position on the count or "Two." The center and the guards, who have been standing with their hands on their knees, drop to their haunches on the count of "One" and come into position on "Two." The ends stand with their feet close together, and take a short cross-step on "One," coming into position on "Two." They also fake a shuttle on certain plays, but remain in position without moving wider. Back 1 steps laterally on the right foot on "One" and pulls his left foot into position on "Two." Back 4 makes a cross-step and a crow hop. Back 2 does a cross-step and a slight crow hop. Back 3 cross-steps diagonally to his right and rear on "One," and comes into position on "Two." The backs use a two-point stance with their hands on their knees. The single wing-back formation to the right is shown in Diagram 2.

The shift into the double wing-back is executed as shown in Diagram 3 or Diagram 4. The shift into the modified punt is executed as shown in Diagram 5. This shift may be executed in practically perfect rhythm and it is easy to teach. It also has the advantage of keeping the defense in doubt until the last moment as to which offensive formation is to be taken. The line charges as a unit and the backs may start simultaneously. The count is "One! Two!" (Shift numbers) "Three!" (Pause) "Four!" (Charge). It is advantageous to use a change of rhythm occasionally, delaying the start until the count of "Five!" or "Six!"

In running plays from single wing-back formation, execution is stressed more than the play itself. The linemen are taught to pay particular attention to the position of opponents, and in this way variations in assignments may quickly be made to take care of undershifted or overshifted men. The inside tackle is the key man to any change in assignment for the center or the outside tackle. His action may be seen in his assignment on our basic play off tackle, as shown in Diagram 6.

In this play, the inside tackle quickly notices any variation in position of line-





men G1 and G2. If one is overshifted, he calls this fact to the attention of his center. The center goes through for the backer-up and the inside tackle blocks G1. If G2 is undershifted, the inside tackle notifies the outside tackle, who goes through for the secondary, while the inside tackle does the blocking on G2. If the opponents are in a normal position, the inside tackle's first duty is to see that the center's man or the outside tackle's man is under control. If not, he goes to



Dana C. McLendon

the assistance of either before going for the backer-up.

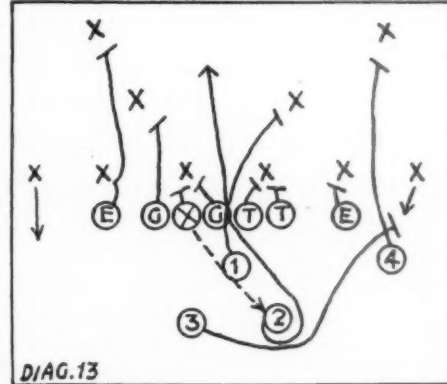
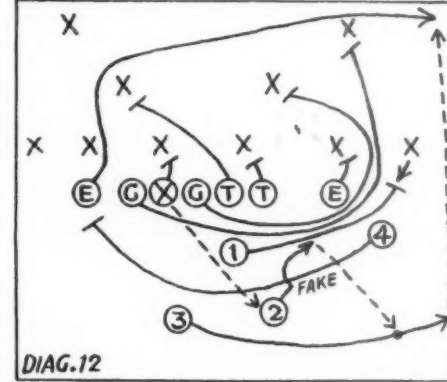
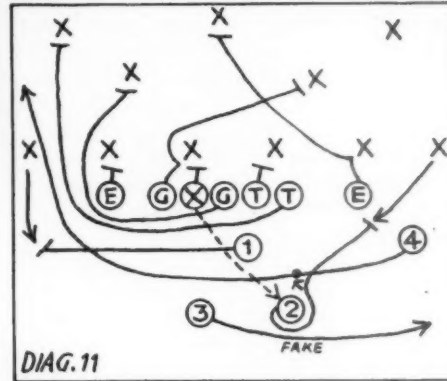
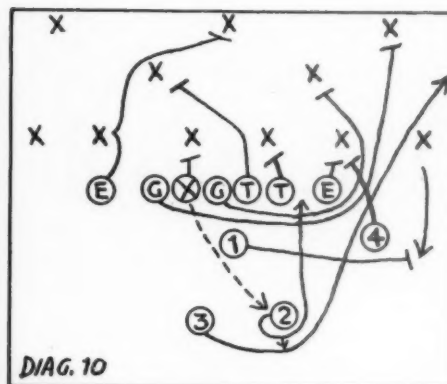
The play is executed as follows: The left end drives his head directly into the opposing tackle's stomach, attempting to take him by himself. The wing-back, 4, steps slightly to his right, and in a fraction of a second sees if the end has control of his opponent. If the end can control his opponent, the wing-back goes for the backer-up. An attempt is made always to turn the tackle into the center of the line. Back 3 steps directly toward the line of scrimmage with his right foot and turns to come shoulder to shoulder with 1, who has stepped off with his right foot. They go into the end with a shoulder dip, attempting to run over him. Back 2 steps off with his right foot slightly toward the line of scrimmage, looks toward the side line and cuts back sharply on his outside foot. It will be noticed that the ball-carrier may also make a fake as if he were going inside tackle in order to draw the defensive fullback into better blocking position. The ball-carrier drives forward like a fullback and after crossing the line of scrimmage uses a halfback's maneuvers.

An in-and-out play is shown in Diagram 7, while Diagram 8 shows a play inside tackle. A mousetrap play is illustrated in Diagram 9. In this play the defensive left tackle is allowed to charge across the line and is taken out by 1.

An off-tackle spinner play is illustrated in Diagram 10. In this play a burden is placed on the defensive tackle because of the fact that either 2 or 3 may take the ball, going inside or outside his position. Back 2 gives the ball to 3 and then spins back into the line.

Diagram 11 shows a weak-side reverse. Back 2 fakes the ball to 3, but gives it to 4.

A lateral pass play is shown in Diagram 12. Back 2 fakes the ball to 4 but gives it to 3. The ball receiver, 3, has an option

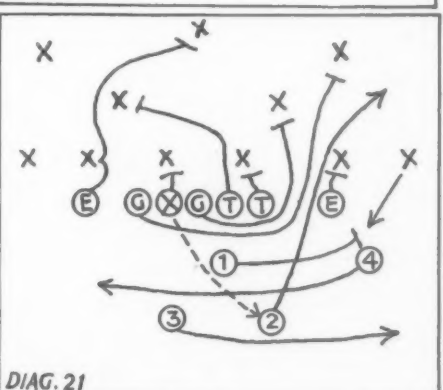
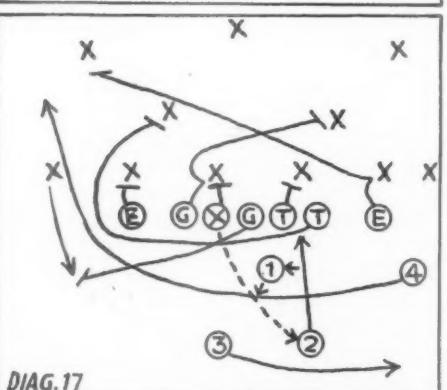
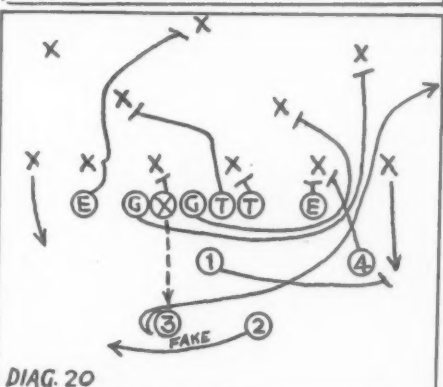
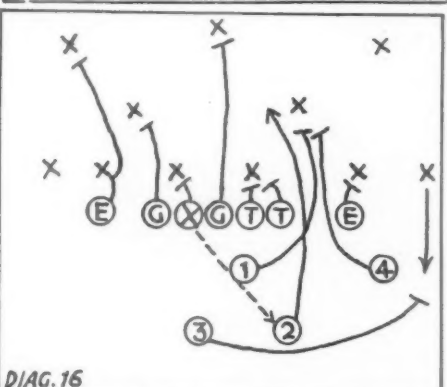
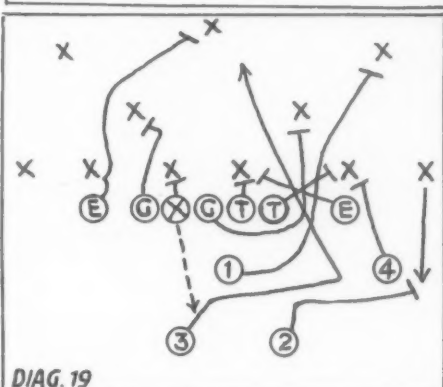
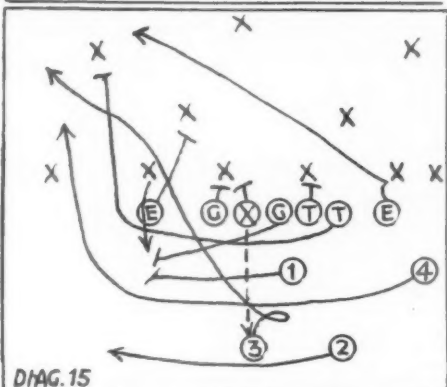
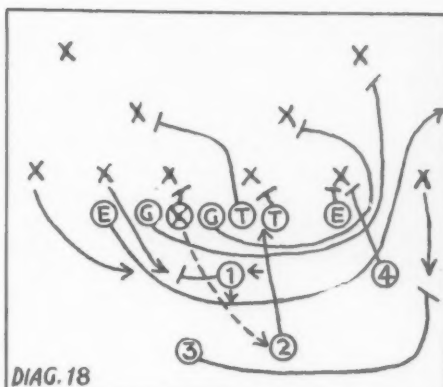
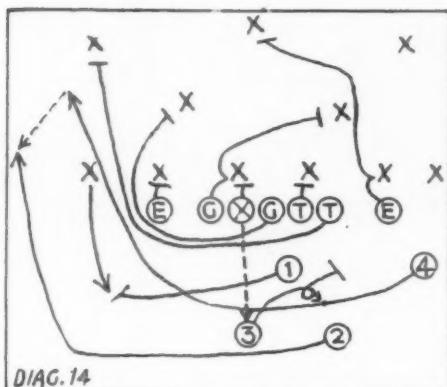


of throwing a forward pass to the left end.

A spinner over center by 2 is shown in Diagram 13.

Diagram 14 shows a weak-side reverse. Back 3 fakes to 2 and gives the ball to 4. This play is executed with a double spinner. Back 4 may take the ball on a sweep around end. Back 2 may take the ball on this build-up. Back 4 laterals to 2 beyond the line of scrimmage.

A weak-side mousetrap on the opposing right tackle is illustrated in Diagram



15. A double lateral from 3 to 4 to 2 is also used from this play beyond the line of scrimmage.

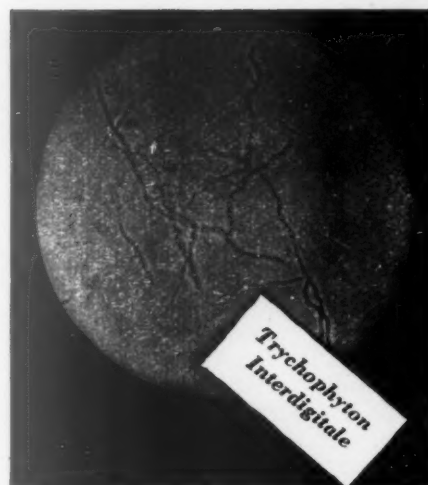
A number of strong bucks may be made from the single wing-back formation. One of these is shown in Diagram 16. A weak-side reverse from a fake buck is shown in Diagram 17. Back 2 gives the ball to 1, who gives it to 4.

An end-around play is shown in Diagram 18. Back 2 gives the ball to 1, who gives it to the left end. Back 1 must cut

off the opposing end or tackle trailing the play.

Strong cross blocking is shown in the play illustrated in Diagram 19.

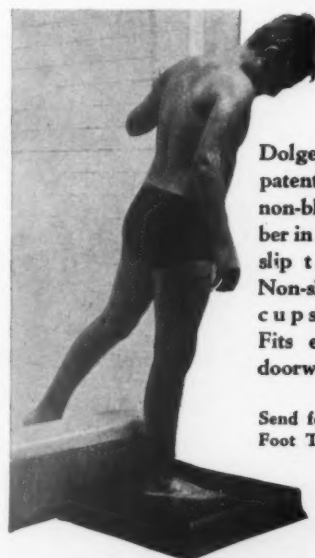
Diagram 20 shows a fake reverse. Back 3 fakes to 2, spins and goes off the strong side tackle. A check play on a reverse to the weak side is illustrated in Diagram 21. Back 2 fakes to 3, then fakes to 4 and goes inside the strong-side tackle. This play may be strengthened if 2 hides the ball on his hip after executing the fake.



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Current Trends in Offensive Football

(Continued from page 16)

In the play shown in Diagram 15, 2 makes a full spin, faking the ball to 4, and then goes inside the defensive left tackle, being led by the offensive left tackle. Other assignments are as indicated in the diagram.

Diagram 16 shows a forward pass play. Back 2 gives the ball to 4, who runs to his right and passes to the left end, who has crossed the line and then cut sharply to the right. The center drops back to help protect the passer. The guards block the opposing guards and the tackles block the opposing tackles. Back 3 blocks the opposing left end.

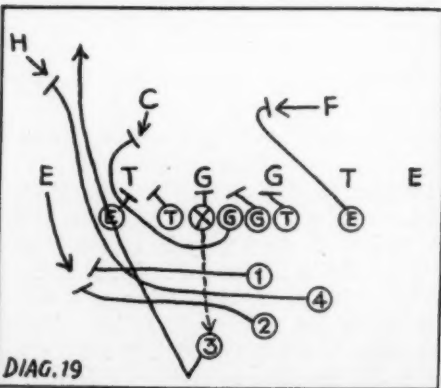
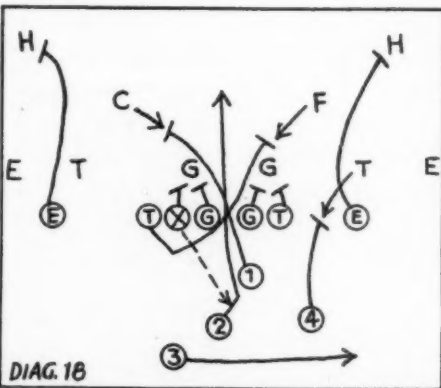
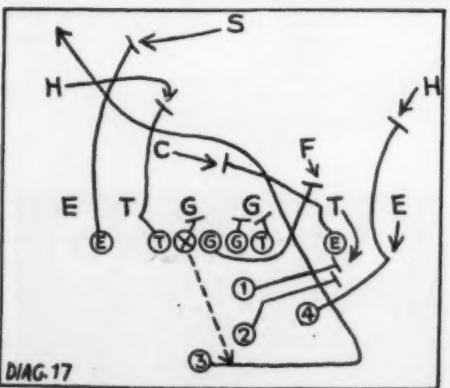
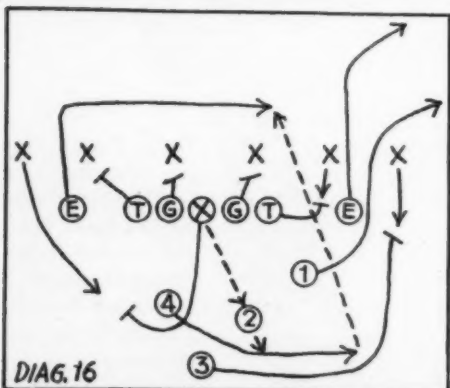
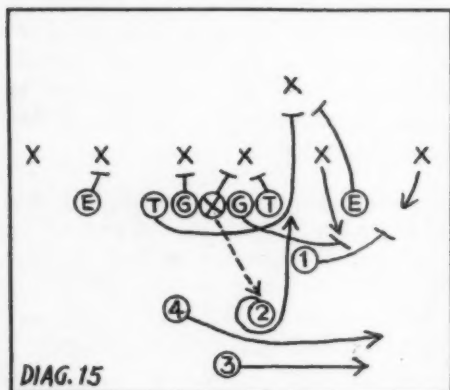
At Northern Coaching School, Bemidji, Minnesota, last summer, the plays shown in Diagrams 17, 18 and 19 were presented by H. O. Crisler, Head Football Coach at Princeton University.

The play in Diagram 17 is from an unbalanced line. The tail-back, 3, takes the ball on the run, goes to his right, and then

cuts back inside the defensive left tackle. Backs 1 and 2 block this tackle, who is allowed by the right end to charge into the backfield. Back 4 feints at the defensive left end and then goes down for the defensive left halfback. The right end feints at the opposing tackle and goes through for the defensive center. The left guard swings around and goes across the line for the defensive fullback. The right tackle and right guard team on the opposing guard. After 3 is across the line, he angles to his left. The left end takes out the safety man and the left tackle takes out the defensive right halfback.

In Diagram 18, the fullback, 2, starts to his right before cross-stepping, which draws the defensive left guard and the defensive fullback to positions in which they may be easily blocked. This maneuver also permits efficient timing on the play. The center and left guard team on the defensive right guard, while the right guard and right tackle team on the defensive left guard. Back 1 precedes the fullback through the hole and blocks the defensive center. The left tackle swings around through the hole ahead of 2 and blocks the defensive fullback. Back 3 fakes to the right.

An off-tackle play to the short side is illustrated in Diagram 19. Backs 1 and 2 block the defensive right end out. With the help of the left tackle, the left end turns the opposing tackle in. Back 3 retreats as if to throw a pass and then follows 4 and the left guard off tackle to the short side.



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